JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

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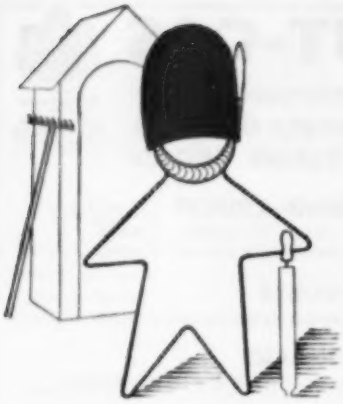

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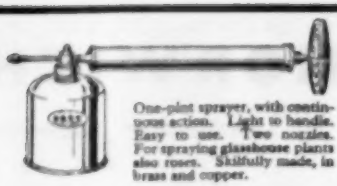

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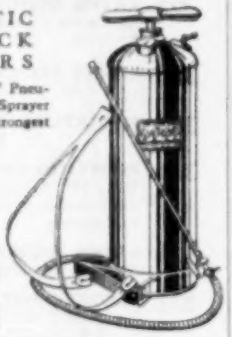

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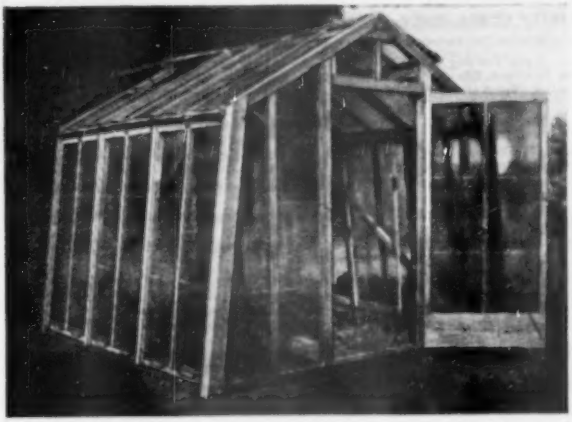

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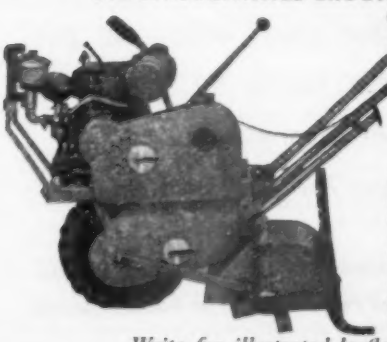

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GENERAL MEETINGS

CHELSEA FLOWER SHOW, MAY 23, 1950

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To Messrs. Laxton Bros. (Bedford), Ltd., Bedford, for an exhibit of Strawberries.

Flora Medal

To Messrs. Burleydam Nurseries (Chester), Ltd., Wirral, for an exhibit of Herbaceous Plants.
To Messrs. J. Cheal & Sons, Ltd., Crawley, for an exhibit of Trees and Shrubs.
To Mr. James Douglas, Great Bookham, for an exhibit of Auriculas.
To Messrs. C. Gregory & Son, Ltd., Chilwell, for an exhibit of Roses.
To Messrs. Haskins Bros., Ltd., Bournemouth, for an exhibit of Shrubs, including varieties of Clematis and other Climbers.
To Messrs. The Home Meadows Nursery, Martlesham, for an exhibit of Pansies, Violas and Iceland Poppies.
To Messrs. Reginald Kaye, Ltd., Carnforth, for an exhibit of Azaleas and Rock Garden Plants.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Irises.
To Messrs. Kibble & Clare, Ltd., Ascot, for an exhibit of Rock Garden Plants.
To Messrs. Lynwood Nurseries (Teddington), Ltd., Teddington, for an exhibit of Gloxinias.
To Mr. W. J. Marchant, Wimborne, for an exhibit of Trees and Shrubs.
To Messrs. John Peed & Son, West Norwood, for an exhibit of Schizanthus and other Greenhouse Plants.
To Messrs. Read's Hybridizing Nurseries, Hockley, for an exhibit of Pansies.
To Messrs. Ryder & Son (1920), Ltd., St. Albans, for an exhibit of Herbaceous Plants.
To Messrs. Sale & Son (Wokingham), Ltd., Wokingham, for an exhibit of Rhododendrons and Azaleas.
To Messrs. Sale & Son (Wokingham), Ltd., Wokingham, for an exhibit of Rock Garden Plants.
To The Southall & District Chrysanthemum Society, Southall, for an exhibit of Greenhouse Plants.
To Messrs. The Sunningdale Nurseries, Windlesham, for an exhibit of Azaleas and Rhododendrons.
To Messrs. Wakeley Bros. & Co., Ltd., North Mimms, for an exhibit of a Mixed Group of Tulips, Paeonies and Irises.
To Mr. Ian G. Walker, South Godstone, for an exhibit of a Rock Garden.
To Messrs. John Waterer, Sons & Crisp, Ltd., Twyford, for an exhibit of Irises.

Banksian Medal

To Messrs. Backhouse Nurseries (York), Ltd., for an exhibit of Rock Garden Plants.
To Messrs. Bakers' Nurseries, Ltd., Codsall, for an exhibit of Rhodohypoxis and other Rock-garden Plants.
To Messrs. R. H. Bath, Ltd., Wisbech, for an exhibit of Verbenas and Calceolarias.
To Messrs. Bees Ltd., Chester, for an exhibit of Dahlias.
To Lady Bird, Solihull, for an exhibit of Hippeastrum and Streptocarpus Hybrids.
To Mr. H. A. Brown, Chingford, for an exhibit of Fuchsias.
To Messrs. Frank Cant & Co., Ltd., Colchester, for an exhibit of Roses.
To Messrs. G. & A. Clark Ltd., Dover, for an exhibit of Fuchsias.
To Messrs. G. & A. Clark Ltd., Dover, for an exhibit of Herbaceous Plants.
To Messrs. The Golden Valley Nurseries, Brimscombe, for an exhibit of Violas.
To Messrs. A. R. & K. M. Goodwin, Bewdley, for an exhibit of Rock Garden Plants, including Dwarf Shrubs.
To Messrs. Hale & May Ltd., Cookham, for an exhibit of a Mixed Group of Herbaceous Plants and Shrubs.
To Mr. Leonard S. Harbutt, Wickhambrook, for an exhibit of Trees and Shrubs, including Conifers.
To Messrs. Gavin Jones (Nurseries), Ltd., Letchworth, for an exhibit of Rock Garden Plants.
To Messrs. MacPenny Nurseries, Bransgore, for an exhibit of Rock Garden Plants.

To Messrs. MacPenny Nurseries, Bransgore, for an exhibit of a Mixed Group of Herbaceous and Rock-garden Plants.
To Mr. C. Newberry, Knebworth, for an exhibit of Anemones and Ranunculus.
To Messrs. The Old Welwyn Gardens, Welwyn, for an exhibit of Rock Garden Plants.
To Messrs. W. H. Rogers & Son, Eastleigh, for an exhibit of Dwarf Conifers and Shrubs for the Rock Garden.
To Mr. Stephen Sims, Draycott, for an exhibit of Aquilegias and Iceland Poppies.
To Messrs. Stark & Son, Ltd., Fakenham, for an exhibit of Iceland Poppies.
To Messrs. Underwood Bros., Woking, for an exhibit of Brooms.
To Messrs. Wm. Wood & Son, Ltd., Taplow, for an exhibit of Summer Bedding and Aromatic Plants.

Hogg Medal

To The Waterperry Horticultural School, Wheatley, for an exhibit of Strawberries.

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Class A.—4 varieties of trees and/or Shrubs

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Second Prize—To The Commissioners of Crown Lands, Windsor Great Park.
Third Prize—To Colonel R. S. Clarke, M.P., Haywards Heath.
Fourth Prize—To Colonel F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., Goring-by-Sea.

Class B.—1 vase of a tree or shrub

First Prize—To The Lord Aberconway, C.B.E., LL.D., V.M.H., and the National Trust, Bodnant.
Second Prize—To The Lord Aberconway, C.B.E., LL.D., V.M.H., and the National Trust, Bodnant.
Third Prize—To Colonel F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., Goring-by-Sea.
Fourth Prize—To Colonel R. S. Clarke, M.P., Haywards Heath.

FLORAL ARRANGEMENT COMPETITION FOR PROFESSIONAL HORTICULTURISTS

First Prize—To Miss Cynthia Zorab, Winchester.
Second Prize—To Messrs. Wm. Francis, Ltd., New Malden.
Third Prize—To Miss L. Calderhead, Balham.
Fourth Prize—To Messrs. Eden (Battle), Ltd., Battle.

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Second Prize—To Mrs. Cyril Potter, Crouch Farm House, Borough Green, Kent.
Third Prize—To Mrs. Eva E. Wren, 40 Garston Lane, Kenley, Surrey.
Fourth Prize—To Mrs G. R. Bennett, The Garden House, Hatfield, Herts.

FRUIT AND VEGETABLE COMMITTEE—Mr. F. A. SECRETT, C.B.E., F.L.S., V.M.H., in the Chair, and thirty-one other members present.

Exhibits

Strawberry No. 31, from G. Stanley Dunn, Esq., The Hame, Redbourn, Herts.
Rhubarb 'The Sutton,' from Chas. J. Howlett, Esq., The Yews, 309 Wokingham Road, Earley, Reading.
Unknown Rhubarb, from Chas. J. Howlett, Esq., The Yews, 309 Wokingham Road, Earley, Reading.

FLORAL COMMITTEE A—Mr. G. W. LEAK, V.M.H., in the Chair, and twenty-four other members present.

Awards Recommended:

Preliminary Commendation and to be seen again:

To H. T. Rose 'Dorothy Anderson' (votes 24 for, 0 against), from Messrs. S. McGredy & Son, Portadown.
To H. T. Rose 'John H. Ellis' (votes 24 for, 0 against), from Messrs. S. McGredy & Son, Portadown.
To Hybrid Polyantha Rose No. 38-47 (subject to naming) (votes 20 for, 0 against), from Mr. Jan Spek, Boskoop, Holland.

Other Exhibits

Hippeastrum 'Incarnadine,' from Dr. K. Temple, Newton Abbot.
Hippeastrum 'Pradham,' from N. T. Williams, Esq., St. Buryan.
Roses 'Rubaiyat' (to be seen again); and 'Armagh,' 'Ulster Monarch,' from Messrs. McGredy & Son, Portadown.
Roses 'Fanny Blankers Koen,' 'Mary' (P.C. 1946), 'Pompon Beauty' (all to be seen again); and No. 555, 'Souv. de Jac Verschuren,' 'Yellow' Cluster' (A.M. 1949), from Mr. Jan Spek, Boskoop, Holland.

FLORAL COMMITTEE B—Mr. E. A. Bowles, M.A., F.L.S., F.R.E.S., V.M.H. in the Chair, twenty-five other members, and Mr. A. L. Jasop (visitor) present.

Awards Recommended:

First-class Certificate

To *Malus ioensis plena*, as a hardy flowering tree (votes 21 for, 4 against), from Mrs. E. M. Holden, Goldwell, Newbury.

Award of Merit

To *Dicentra formosa alba*, as a hardy flowering plant (votes 13 for, 2 against), from Messrs. C. G. van Tubergen, Ltd., Haarlem, Holland.
To *Lilium Mackliniae*, as a hardy flowering plant (votes 14 for, 0 against), from Col. F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., Highdown, Goring-by-Sea.
To *Paeonia arietina* var., as a hardy flowering plant (votes unanimous, subject to naming), from Miss Milne, Dykes, Henfield.
To *Paeonia* sp., as a hardy flowering plant (votes 13 for, 3 against, subject to naming), from G. S. Thomas, Esq., Briar Cottage, West End, Woking.
To *Primula* 'Viatans' (*Viali* × *nutans*), as a hardy flowering plant (votes 20 for, 2 against), from Bartley Nurseries, Southampton.
To *Rosa anemonoides* 'Ramona,' as a hardy flowering shrub (votes unanimous), from Messrs. T. Hilling & Co., Chobham, Woking.
To *Rosa spinosissima* hybrid 'Fruhlingsgold,' as a hardy flowering shrub (votes unanimous), from Messrs. T. Hilling & Co., Chobham, Woking.
To *Syringa vulgaris* 'Primrose,' as a hardy flowering shrub (votes 22 for, 2 against), from Mr. Jan Spek, Boskoop, Holland.

Other Exhibits

Acer 'Goldsworth Purple,' exhibited by Messrs. L. R. Russell, Ltd., Richmond Nurseries, Windlesham, Surrey.
Armeria plantaginea, white form, exhibited by Dr. M. Amsler, Esq., Hawkhurst.
Bambusa fastuosa, *Bambusa Metake*, *Bambusa nigra*, *Polygonatum multiflorum*, exhibited by C. J. Howlett, Esq., The Yews, 309 Wokingham Road, Earley.
Buddleia heliophila, *Olearia* × *scilloniensis*, *Vallea stipularis*, exhibited by The Rt. Rev. The Lord Bishop of Truro, Lis Escop, Truro.
Cercis Siliquastrum alba, *Libertia formosa*, *Piptanthus nepalensis*, *Staphylea colchica*, exhibited by Mrs. E. M. Holden, Goldwell, Newbury, Berks.
Clematis 'Barbara Jackman,' exhibited by Messrs. Jackman & Sons, Ltd., Woking, Surrey.
Cytisus × *Burkwoodii*, exhibited by Mr. D. Burkwood, Yew Tree Lane Nurseries.
Daphne 'Somerset,' Bodnant form, *Lomatia obliqua*, exhibited by Lord Aberconway and The National Trust, Bodnant, North Wales.
Dimorphotheca chrysanthemifolia, exhibited by Messrs. Sutton & Sons, Ltd., Reading.
Libertia ixioides, *Olearia nitida* var. *capillaris*, *Pittosporum daphniphylloides*, exhibited by Lord Stavordale, Abbotsbury Gardens, nr. Weymouth, Dorset.
Lilium Brownii, exhibited by Air Commodore Benson, Woodside House, Chenies, Rickmansworth.
Lilium Brownii var., exhibited by W. J. Keswick, Esq., Theydon Priory, Theydon Bois, Essex.
Lilium callosum var. *luteum*, exhibited by Messrs. W. A. Constable, Ltd., Southborough, Tunbridge Wells.
Lonicera tibetica, exhibited by A. T. Barnes, Esq., Kingsbrook Gardens, Cardington Road, Bedford.
Lychnis Viscaria splendens plena, exhibited by Messrs. Sale & Son, Ltd., Wokingham, Berks.
Mackaya bella, exhibited by St. Bridget Nurseries, Exeter.
Malus coronaria Charlottae, exhibited by Mr. W. J. Marchant, Keeper's Hill Nursery, Stapehill, Wimborne.
Meconopsis integrifolia, *Meconopsis* × *Musgravei*, exhibited by Mrs. G. Knox Finlay, Keillour Castle, Methven, Perthshire.
Meconopsis quintuplinervia, exhibited by Messrs. Oliver & Hunter, Moniaive, Dumfries.
Petteria ramentacea, *Syringa* 'Massena,' exhibited by Col. F. C. Stern, Highdown, Goring-by-Sea, Sussex.
Penstemon alamosensis, *Penstemon campanulatus* 'Evelyn,' *Penstemon Clutei*, *Penstemon Hartwegii* 'Garnet,' *Penstemon utahensis*, exhibited by Hollybush Nurseries, Mackerye End, Harpenden, Herts.
Prunus prostrata, Syrian Form, exhibited by Capt. Collingwood Ingram, Benenden, Kent.
Syringa var., exhibited by Mrs. M. Hornby, Pusey House, nr. Faringdon, Berks.

ORCHID COMMITTEE—Mr. Gurney Wilson, F.L.S., V.M.H., in the Chair, and seventeen other members present.

Awards Recommended:

Award of Merit

Odontoglossum 'Mary' var. 'Chromos' ('Brimstone Butterfly' × *triumphans*) (votes 17 for, 0 against), from the Hon. Mrs. Ionides, Buxted Park, Uckfield.
Cymbidium 'Clare Armstrong' var. 'Greensleeves' (*Alexanderi* × 'Mirella') (votes 12 for, 1 against), from Messrs. Armstrong & Brown, Tunbridge Wells.
Cymbidium 'Albania' var. 'Delight' (*albanense* × *Alexanderi*) (votes 11 for, 1 against), from Messrs. Sanders, St. Albans.
Laeliocattleya 'Arcadia' ('*Lc.* 'Jupiter' × *Lc.* 'Areca') (votes 10 for, 3 against), from McBean's Orchids, Ltd., Cookshridge.

NARCISSUS AND TULIP COMMITTEE—Mr. E. A. Bowles, F.L.S., F.R.E.S., V.M.H., in the Chair, and sixteen other members present.

Awards Recommended:

First-class Certificate

To *Narcissus* 'Frigid,' as a variety for exhibition (votes 15 for, 0 against). This small-cupped variety (Division 3c) received an **Award of Merit** on May 20, 1947. See *Journ.* **72**, p. 405. Raised and shown by Mr. Guy L. Wilson, The Knockan, Broughshane, Co. Antrim, Northern Ireland.

Award of Merit

To *Narcissus* 'Santa Claus,' as a variety for exhibition (votes 14 for, 0 against). Raised and shown by Mr. Guy L. Wilson.

Other Exhibits

Narcissus 'Reptieve,' shown by Mr. Guy L. Wilson.

RHODODENDRON COMMITTEE—Mr. Charles Williams, M.P., in the Chair, and thirteen other members present.

Awards Recommended:

Award of Merit

To *Rhododendron* 'Morawen' ('Isabella' × 'Shepherd's Delight') (votes 12 for, 0 against), as a hardy flowering shrub, from Admiral A. Walker-Heneage-Vivian, C.B., M.V.O., D.L. Clyne Castle, Blackpill, Swansea.
To *Rhododendron* 'Conroy' (*cinnabarinum* var. *Roylei* × *concatenans*) (votes 12 for, 0 against), as a hardy flowering shrub, from Lord Aberconway, C.B.E., LL.D., V.M.H., and The National Trust, Bodnant, North Wales.
To *Rhododendron* 'Winsome' ('Humming Bird' × *Griersonianum*) (votes 9 for, 0 against), as a hardy flowering shrub, from Lord Aberconway, C.B.E., LL.D., V.M.H., and The National Trust, Bodnant, North Wales.

Cultural Commendation

To The Commissioners of Crown Lands, Windsor Great Park, Berks, for a particularly fine plant of *Rhododendron* 'Hawk' var. 'Merlin' (*Wardii* × 'Lady Bessborough').

Selected for trial at Wisley

Rhododendron (*Azalea*) 'Carolina' and *Rhododendron* (*Azalea*) 'Golden Eye,' from The Commissioners of Crown Lands, Windsor Great Park, Berks.
Rhododendron (*Azalea*) Nos. R.2, P.1, B.61, B.61 (A) and *Rhododendron* (*Azalea*) 'Clarissa,' from Messrs. D. Stewart & Sons, Ltd., Ferndown Nurseries, nr. Wimborne, Dorset.
R. mucronatum var. *magnificum* from Capt. Collingwood Ingram, Benenden, Kent.

Other Exhibits

R. 'Leo' (*Elliottii* × 'Britannia'), *R.* ('Fusilier' × *Griersonianum*), and *R.* 'Bulldog' ('Earl of Athlone' × *Elliottii*), from Col. E. H. Bolitho, D.S.O., Trengwainton, Penzance, Cornwall.
R. (*Griffithianum* × 'The Don') and *R. cringerum* var. *cuadenium* (Forrest 25818), from Lord Digby, D.S.O., M.C., Cerne Abbey, Dorchester, Dorset.
R. 'Theresa' ('Romany Chal' × *Griersonianum*) and *R.* 'Perseverance' ('Lady Chamberlain' × *cinnabarinum*), from Lord Stavordale, Abbotsbury Gardens, nr. Weymouth, Dorset.
R. 'Thais' ('Eurydus' × *Loderi*) and *R. Abercomwayi*, pink form, from Lord Aberconway, C.B.E., LL.D., V.M.H., and The National Trust, Bodnant, North Wales.
R. 'Hawk' var. 'Exbury' (*Wardii* × 'Lady Bessborough') and *R.* 'Repose' (*lacteum* × *discolor*), from E. de Rothschild, Esq., Exbury, Southampton.

R. (*litiense* × 'Grierdal,') *R.* (*neriiflorum* × 'Tally-Ho,') *R.* (*Griffithianum* × *arboreum* blood red) and *R.* ('Britannia' × *discolor*), from Admiral A. Walker-Heneage-Vivian, C.B., M.V.O., D.L., Clyne Castle, Blackpill, Swansea.
R. Soulei (**F.C.C.** 1909) *R. orbiculare* (**A.M.** 1922) and *R. croceum* (**A.M.** 1926), from Major A. E. Hardy, Sandling Park, Hythe, Kent.
R. 'Hawk' var. 'Kestrel' (*Wardii* × 'Lady Bessborough'), from The Commissioners of Crown Lands, Windsor Great Park, Berks.

JOINT PERPETUAL FLOWERING CARNATION COMMITTEE—Mr. C. J. Horwood in the Chair, and eleven other members present.

Awards Recommended:

Award of Merit

To ' Allwood's Golden Glory' (for exhibition and market), shown by Messrs. Allwood Bros., Ltd., Haywards Heath, Sussex.

Other Exhibits

' Allwood's Prolific ' (to be seen again), shown by Messrs. Allwood Bros., Ltd., Haywards Heath, Sussex.
' Market Pearl,' shown by Mr. J. R. Bell, Southdown Nurseries, Cross-in-Hand, Sussex.

JOINT DIANTHUS COMMITTEE—Mr. T. E. Tomalin in the Chair, and twelve other members present.

Selected for trial at Wisley

Allwoodii ' Matilda,' 'Show Excellence' and 'Show Aristocrat,' all shown by Messrs. Allwood Bros., Ltd., Haywards Heath, Sussex.

JOINT IRIS COMMITTEE—Colonel F. C. Stern, O.B.E., F.L.S., V.M.H., in the Chair, and fourteen other members present.

Awards Recommended:

Award of Merit

To 'Jemmy O'Goblin' and 'Tranquil Dale,' both seedlings from *Iris innominata* × *I. Douglasiana* (votes 12 for, 0 against and 8 for, 4 against respectively), both shown by H. Senior Fothergill, Esq., 12 Abercorn Place, London, N.W. 8.

Preliminary Commendation

To Regelio-cyclus 'Teucros' and Regelio-cyclus 'Ulyssus' (votes 9 for, 0 against in each case), both shown by Messrs. C. G. van Tubergen, Ltd., Haarlem, Holland.
To 'Leprechaun' seedling from *I. innominata* × *I. Douglasiana* (votes 11 for, 0 against), shown by H. Senior Fothergill, Esq., 12 Abercorn Place, London, N.W. 8.

Selected for trial at Wisley

Regelio-cyclus 'Calchas,' 'Teucros' and 'Ulyssus,' all shown by Messrs. C. G. van Tubergen, Ltd., Haarlem, Holland.
Bearded Irises 'Juliet,' 'Lady Louise' and 'Danube Wave,' shown by Messrs. J. Kelway & Son, Langport, Somerset.
Bearded Iris 'Cornhill,' shown by N. Leslie Cave, Esq., Summerlea, Sugden Road, Thames Ditton, Surrey.
Bearded Irises 'Bridal Pink,' 'Sarah Lee Shields,' Seedlings Nos. 008 and 925, all shown by H. J. Randall, Esq., Sandilands, Woking, Surrey.

Other Exhibits

Bearded Iris, collected form of *Kochii*, shown by B. Symons-Jeune, Esq., Runnymede House, Old Windsor, Surrey.
Regelio-cyclus 'Daedalus' and 'Callisto,' both shown by Messrs. C. G. van Tubergen, Ltd., Haarlem, Holland.
Iris innominata × *I. Douglasiana* seedlings Nos. E/185/7, E/32/14 and E/185/9, all shown by H. Senior Fothergill, Esq., 12 Albercorn Place, London, N.W. 8.
Bearded Irises Nos. W.46/1, W.50/4, X.9/2, all shown by A. Drewett, Esq., 17 Beckenham Grove, Shortlands, Kent.
Bearded Irises 'Lady Mohr,' 'Brilliant Amber,' 'Chivalry,' 'Cordovan,' 'Desert Song,' 'Golden Russett,' 'Mount Timp,' 'Magic Carpet' and 'Mary Vernon,' all shown by Messrs. Kelway & Son, Langport, Somerset.
Bearded Irises Seedlings Nos. 55A and 19A, both shown by N. Leslie Cave, Esq., Summerlea, Sugden Road, Thames Ditton, Surrey.
Bearded Irises 'Nightfall,' 'Twilight Sky,' Seedlings Nos. 301, 702, 801, 812, 826, 908 and 925, all shown by H. J. Randall, Esq., Sandilands, Woking, Surrey.
Bearded Iris Seedling shown by Captain Collingwood Ingram, The Grange, Benenden, Cranbrook, Kent.

JOINT ROCK GARDEN PLANT COMMITTEE—Iris, Lady Lawrence, in the Chair, and eight other members present.

Awards Recommended:

Award of Merit

To *Vaccinium Delavayi*, as a hardy flowering shrub for the Alpine House and Rock Garden, from R. E. Heath, Esq., 13 Maybury Close, Petts Wood, Kent.
To *Campanula pelia*, as a hardy flowering plant for the Alpine House and Rock Garden, from H. Clifford Crook, Esq., 4 Alexandra Crescent, Bromley, Kent.

Preliminary Commendation

To *Primula tenella*, from Mrs. G. Knox Finlay, Keillour Castle, Methven, Perthshire,
To *Primula* 'Prospect' (*Wollastonii* × *Reidii*) from R. B. Cooke, Esq., Kilbryde. Corbridge, Northumberland.

Other Exhibits

Edraianthus graminifolius and *Viola Curtisii* from C. H. Hammer, Esq., The Old Rectory, Boreham, Essex.
Primula umbratilis (A.M. 1941), *Aconitum Hookeri* and *Primula Dickieana*, which the Committee wishes to see again at a future meeting, from R. B. Cooke, Esq., Kilbryde, Corbridge, Northumberland.
Pentstemon fruticosus var. *Scouleri*, which the Committee wishes to see at a future meeting, *Pentstemon fruticosus* var. *crassifolius* and *Pentstemon congestus* from Alexander MacGregor, Esq., Hollybush Nurseries, Mackerye End, Harpenden, Herts.
Erigeron glaucus roseus 'MacPenny,' from Messrs. MacPenny Nurseries, Ltd., Bransgore, nr. Christchurch, Hants.
Primula vulgaris green-form, from Lt.-Col. L. H. Brammall, Alpine Nursery, Nomansland, nr. Salisbury.

JUNE 6, 1950

JOINT IRIS COMMITTEE—Col. F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and fourteen other members present.

Selected for trial at Wisley

Seedling 70/5 and 'Keene Valley,' from L. W. Brummitt, Esq., 30 Bloxham Road, Banbury, Oxon.
Seedling, from A. T. White, Esq., Aldbury, Oaklands Avenue, Oxhey, Herts.
'Truly Yours,' 'Corporal Mary,' 'Sarah Goodloe,' 'New Horizon' and 'Robin McGregor,' from H. J. Randall, Esq., Sandilands, Brooklyn Road, Woking, Surrey.
Seedlings CM 1100 and CM 1110, from Sir Cedric Morris, Benton End, Hadleigh, Suffolk.
'St. Dominic,' from Rev. Canon Rollo Meyer, Manor End, Little Gaddesden, Berkhamsted, Herts.
'Cascade Splendor,' 'Three Oaks' and 'Indiana Night,' from C. P. Raffill, Esq., 193 Kew Road, Richmond, Surrey.
'Pinnacle' and 'Melody Lane,' from G. L. Pilkington, Esq., Lower Lee, Woolton, Liverpool.
'Strathmore,' from Messrs. R. W. Wallace & Co., The Old Gardens, Tunbridge Wells, Kent.

Other Exhibits

'Rare Marble' and 'Sea Lark,' from H. Senior Fothergill, Esq., 32 Old Burlington Street, London, W.1.
Seedling 805AA, from N. L. Cave, Esq., Summerlea, Sugden Road, Thames Ditton, Surrey.
Seedling H.1, 46–2A and 45–25A, from L. W. Brummitt, Esq., 30 Bloxham Road, Banbury, Oxon.

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September 1950

THE SECRETARY'S PAGE

ANNOUNCEMENTS—SEPTEMBER AND OCTOBER

Shows

TUESDAY, September 12 12 NOON to 7 P.M.	Fortnightly Show. *Cactus and Succulent Society's Competition.*
WEDNESDAY, September 13 10 A.M. to 5 P.M.	*Alpine Garden Society's Competition.*
FRIDAY, September 15 12 NOON to 7 P.M.	*National Rose Society's Show.*
TUESDAY, September 19 12 NOON to 7.30 P.M.	*National Dahlia Society's Show.*
WEDNESDAY, September 20 10 A.M. to 5 P.M.	
TUESDAY, September 26 12 NOON to 7 P.M.	Fortnightly Show.
WEDNESDAY, September 27 10 A.M. to 5 P.M.	*Royal Air Force Horticultural Show.*
TUESDAY, October 10 12.30 P.M. to 7 P.M.	Fortnightly Show.
WEDNESDAY, October 11 10 A.M. to 5 P.M.	Autumn Fruit and Vegetable Show.
TUESDAY, October 24 12 NOON to 6 P.M.	Fortnightly Show. Tree and Shrub Competition.
WEDNESDAY, October 25 10 A.M. to 5 P.M.	Floral Arrangement Competition for Professionals.

Kindred Society's Show

TUESDAY, September 19 1 P.M. to 7.30 P.M.	*National Chrysanthemum Society's Show.* R.H.S. tickets will not admit.
WEDNESDAY, September 20 10 A.M. to 5 P.M.	

Lectures

TUESDAY, September 12 at 3 P.M. "Early Flowering Chrysanthemums" by MR. JOHN B. STEVENSON.

TUESDAY, September 26 at 3 P.M. "New Varieties of Dahlias and their Cultivation" by MR. STUART OGG.

Lectures—*continued*

TUESDAY, October 10 at 3 P.M. "Outdoor Peach Growing" by MR. JUSTIN BROOKE.

TUESDAY, October 24 at 3 P.M. "Horticulture as a Career" by MR. F. A. SECRETT, C.B.E., F.L.S., V.M.H., and MR. J. L. RUSSELL.

Kindred Society's Lecture—The Alpine Garden Society has arranged a lecture on Wednesday, September 13 at 2.30 P.M. in the R.H.S. Lecture Room by MR. B. O. MULLIGAN, Director of the University of Washington Arboretum, on "Alpine Plants of the Cascade and Olympic Mountains." All Fellows are invited to this lecture, which will be illustrated with colour films.

Demonstrations at Wisley—The following demonstrations will be given at Wisley, that on the second day being in each case a repetition of the demonstration given on the first:—

Vegetable Garden

September 13, 14. Harvesting and Storing. (2–4 P.M.)

Flower and Vegetable Garden

October 4, 5. Digging, Trenching, Manuring, and Composting. (2–4 P.M.)

National Trust Gardens—We have been asked by the National Trust to bring to the notice of our Fellows the fact that the undermentioned gardens are open to the public on the times and dates given. It is understood that all these gardens are worthy of a visit.

Bateman's, Burwash, Sussex—Wednesdays, Saturdays and Sundays throughout the year. May to September: 2–5 P.M.; October to April: 2–4 P.M. Open on Easter and Whit Mondays and August Bank Holiday from 11 till 5 P.M.

Barrington Court, near Ilminster, Somerset—Wednesdays throughout the year, 10.15 A.M. to 12.15 P.M. and 2 P.M. to 5 P.M.

Blickling Hall, near Aylsham, Norfolk—Thursdays and Sundays from 2 to 5 P.M. between May and September inclusive. Special 'bus service from Bell Avenue, Norwich, at 2.30 P.M.; returns 5.45 P.M.

Cliveden, near Maidenhead, Bucks.—Thursdays from 11 to 6.30 P.M. between April 1 and October 31. Entrance by Hedsor Lodge at N. end.

The Court, Holt, near Trowbridge, Wiltshire—Wednesdays from 2.30 to 5.30 P.M. between March 15 and October 15.

Gunby Hall, Burgh-le-Marsh, Lincolnshire—Tuesdays and Thursdays from 2.30 to 7.30 P.M. between April 1 and September 30.

Montacute House, near Yeovil, Somerset—Daily, including Sundays (except Tuesdays, Christmas Day and Good Friday); April to September: 11 A.M. to 6 P.M.; October to March: 11 A.M. to 4 P.M.

Packwood House, near Hockley Heath, Warwickshire—Summer: Wednesday, Saturdays and Bank Holidays: 2 to 7 P.M. Sundays 2 to 5 P.M. Winter: Wednesdays, Saturdays, Sundays and Bank Holidays: 2 to 5 P.M. Closed Christmas Day.

Polesden Lacey, near Dorking, Surrey—Daily, including Sundays, throughout the year.

Upton House, near Banbury, Warwickshire—Wednesdays and Saturdays from July 1 to September 30: 2 to 6 P.M. Other months, Wednesdays only, 2 to 6 P.M.

WISLEY IN SEPTEMBER

As the season advances flowers give way to brilliant foliage and fruits and as the days shorten the greenhouses once more attract visitors' attention. The Half-Hardy House is bright with colour partly afforded by the scarlet 'Scarborough Lily,' *Vallota purpurea*, and the strange flowers of *Fascicularia bicolor* which are borne in dense sea-green papery clusters surrounded by spiny linear leaves stained scarlet at the base. *Diplacus glutinosus*, in both buff and crimson forms, the light orange-flowered sprays of *Sphaeralcea Fendleri* and the purplish-rose *Oxalis Bowei* have all been blooming profusely for several months. × *Amarcrinum Howardii* is a striking plant forming tall scapes which bear numerous soft pink funnel-shaped flowers. It is a bi-generic hybrid between *Amaryllis Belladonna* and *Crinum Moorei*. Trained along the roof supports are *Solanum jasminoides*, *Calceolaria Pavonii*, and *Mandevilla suaveolens*. The latter is still flowering and also bears numerous twin, horn-like pods. Trained up at the far end of the house are two varieties of Abutilon and *Plumbago capensis*, the azure-blue flowers of which cover walls and houses in South Africa. There is also much to interest visitors in the Temperate House. In the centre bed the orange flowers of *Cestrum aurantiacum* are making a fine display, likewise the evergreen *Brunfelsia undulata* with corymbs of creamy flowers, and *Correa alba*. *Nerium Oleander*, seen so frequently in southern Europe, is also flowering. The side staging is gay with a variety of plants such as *Begonia* 'Gustav Hind,' a double-flowered form of *B. semperflorens*, and purple and yellow forms of *Lantana Camara*, while the varieties of Gloxinia, Streptocarpus, Achimenes and *Hibiscus rosa-sinensis* do much to add to the colourful display.

In the Stove House are many ornamental foliage plants while more and more flowers are appearing among the Orchid collection.

At the foot of the rock wall opposite the greenhouses are bays planted with the dazzling blue-flowered *Gentiana sino-ornata*, while further along on the frameyard wall is an attractive cream-flowered Clematis with a fresh cowslip-scent, *C. Rehderiana*. From here the Terrace Walk may be reached by way of the Lavender Walk and the formal bedding display viewed against a background of green lawns and Hornbeam hedges.

In the Floral Trial Grounds are collections of Michaelmas Daisies, Early Flowering Chrysanthemums, Korean Chrysanthemums, Annual Asters and Dahlias.

On Weather Hill both the Rose Borders and the Annual Border will continue to be colourful as long as the weather remains favourable.

The number of plants in flower in the Alpine House at this season is necessarily more limited, but nevertheless there are interesting species to be seen, such as *Anemone glaucifolia* with purple, Poppy-like flowers, the strange cerise flower heads of *Trichinium Manglesii*, the large-flowered *Campanula isophylla Mayi*, and sky-blue *Lobelia Preslii*. These are supplemented by Sedums, Sempervivums and other decorative foliage plants. Outside the house the Gazanias continue to open whenever the sun shines and will do so until frost ends their brilliant display.

Kniphofia Galpinii, a small and very brilliant Red-hot Poker, a large bush of *Hibiscus syriacus* in its white variety *totus albus*, the scarlet *Zauschneria californica*, forms of *Fuchsia magellanica*, and clumps of *Ceratostigma plumbaginoides* provide the brightest picture on the Rock Garden during this month, although there are many other smaller patches of colour to catch the eye. These are formed by *Calendula suffruticosa*, *Schizostylis coccinea*, the rosy-pink flowers of *Polygonum affine*, the cool-looking powder-blue *Convolvulus mauritanicus* and *Liriope Muscari*, a plant reminiscent of the Grape-hyacinth. *Verbena chamaedryfolia* will continue flowering until the frosts but is somewhat tender and needs some protection during the winter.

At the top of the Alpine Meadow and in the Wild Garden the charming flowers of *Cyclamen neapolitanum* are again appearing in great quantity. Similarly another plant associated with the advent of autumn is the Willow Gentian, *Gentiana asclepiadea*, filling moist corners with arching blue racemes. The flowering period of this part of the Gardens is nearly over but this makes decorative fruits more noticeable, especially the great seed heads of *Lilium giganteum* and the pendent cucumber-like Magnolia fruits.

In contrast the Heather Garden is at its brightest, notable among the numerous heaths planted here are *Erica vagans* 'Pyrenees Pink,' *E. v. grandiflora*, *E. cinerea* 'Cevennes' and *Calluna vulgaris* 'H. E. Beale.' An extensive planting of *Daboecia cantabrica* forms an intense purple carpet. Elsewhere in Seven Acres shrubs such as Barberries, Euonymus, Crab Apples, Cotoneasters and Sea Buckthorn are clothed in brightly coloured fruits of considerable decorative value at this season. Bordering the Pinetum and elsewhere in Seven Acres, Colchicums in many shades of rosy-purple are conspicuous, and they are planted in greatest quantity in the Azalea Garden where they carpet the ground beneath Viburnums hung with shining scarlet, yellow or black berries.

Despite the late season the Herbaceous Borders are well worth a visit, the display being lengthened by such plants as *Aster acris*, *Chrysanthemum rubellum* and bluish-pink flowered *Sedum spectabile*. There are two very good Salvias, *S. caerulea* and *S. uliginosa*; the latter grows to a height of 6 feet with dense clusters of sky-blue flowers making it an extremely valuable border plant. Splashes of glowing crimson are afforded by *Lobelia fulgens* and *L. cardinalis*.

In the Award of Garden Merit Collection most of the herbaceous plants mentioned above are to be seen, with the addition of *Aster Amellus* 'Sonia,' *A.* × *Frikarti* and *Rudbeckia speciosa*. Among the shrubby plants *Ceanothus* 'Gloire de Versailles' continues to flower supplemented by some very attractive varieties of *Hibiscus syriacus*.

Just before reaching the Laboratory a small tree of *Clerodendron trichotomum* will be noticed. It is a valuable plant for autumn display, the fragrant white flowers being followed by bright blue berries offset by the persistent crimson calyces.

At the foot of the walls are two small blue-flowered shrubs, *Caryopteris* × *clandonensis* and *Ceratostigma Willmottianum*, while the nearly allied but herbaceous *C. plumbaginoides* is springing up through cracks

in the terrace. *Kniphofia Nelsonii* with the foliage of *Senecio laxifolius* make a contrasting splash of orange and grey. Just inside the entrance *Amaryllis Belladonna* and *Nerine Bowdenii* are again creating a charming picture of bright pink against a background of soft grey.

BORDER CARNATIONS

Montagu C. Allwood, F.L.S., V.M.H.,

(*Lecture given on July* 11, 1950, *to members of the Royal Horticultural Society and the British National Carnation Society*, MR. G. W. LEAK, V.M.H., *in the Chair*)

FEW things can have a greater influence for good upon the mind of man than flowers, and there is no finer flower than the Border Carnation. Its wonderful influence upon developments in the large Dianthus family is remarkable, and this interesting fact is now fully appreciated. All the best races and strains, such as the Perpetual Flowering Carnation, etc., have *English* Border Carnation in them; in fact, all races of Carnations owe the quality of refinement in the flower to them.

Another interesting fact is that few, if any, plants are more truly British. For instance, it is safe to say that the Normans introduced *Dianthus Caryophyllus*, their wild ancestors, into England. Also, it is most interesting to follow the progress of the plants in this country throughout our history since 1066, at times almost too popular, and at others nearly neglected. However, with all these ups and downs they have always been considered one of the aristocrats of the Floral Kingdom, and like the Briton, their influence for good has spread over the whole world.

I contend that Floral Committees and Flower Shows, unless they are wisely guided, can be a real danger to the development of a plant. The Border Carnation has suffered in the past from too jealous or fastidious Floral Committees which at times turned the plant into a pampered pet, raised exclusively for flower shows instead of a really hardy border plant for the garden. Happily to-day, mainly thanks to our present Floral Committee, and also the R.H.S. trials held each year at Wisley, the garden merits of the plant have been exhibited, or rather emphasized to the public, also to the trade growers, so that to-day the Border Carnation is a b tter plant and more popular than it used to be.

We should recognize and appreciate the work of Floral Committees, especially in the case of florist's flowers; their duty is to recognize and encourage the development of plants' merits. Border Carnations, are classified into such colour groups as Selfs, White grounds, Yellow grounds, Picotees, Flakes, Bizarres, etc., a classification which may, in fact, seem rather confusing to the novice, but which in reality makes the study of them simpler and easier to understand. Then we have the hardy, or fool-proof race of Cottage type, which is bred from the old hardy garden kinds, but they have no exhibition value. I am not going to give you a list of varieties because you can collect them from the

catalogue of any good carnation specialist, also it is a matter of personal taste.

How to grow Border Carnations

In a garden there are naturally a few commonsense rules to observe, so let us consider for guidance the wild ancestor *Dianthus Caryophyllus*. Its native home is on the limestone mountains of Southern Europe. It is quite easy to deduce from this information the conditions which the plants prefer. For example lime is one of the essential parts of the plant's diet; this would be there in a perfect state for Carnations, mild and slow acting, never purging the soil of plant food. There would not be any acidity in the soil, on limestone mountains the soil would be sweet and pure, not too rich nor poisoned with highly concentrated chemical fertilizer. The roots of the plant would just be under the soil and not deeply planted. Carnations hate to have their stems deeply buried, it brings about stem-rot for which the scientist loves to give a long name. The roots of plants growing on limestone mountains would keep cool between the crevices, the sunlight would be good. All Carnations must have a direct light and be in a position where they can see the sun. Also the air would circulate freely around the plants, keeping the foliage dry and healthy—the appearance of Carnation leaves tell you that, the the bloom or glaucescence is their natural defence against pests and diseases. But the greatest benefit to plants growing upon the hillside would be that they would be growing in soil with a free drainage. These I contend are the essential conditions for growing all members of the Dianthus family really well. Similar natural conditions in your garden will keep them healthy and happy for a number of years.

Now if you consider all these natural conditions which were favourable for the wild ancestors of the Border Carnations, so that they naturalized themselves and carried on from age to age, you should be able to locate the reason for any previous failure in growing Border Carnations in your own garden, and correct them. I am sure of this, that every obstacle can be overcome provided you can locate the cause of your previous failure. For instance, in many old town gardens, the soil is quite rich enough for Carnations, often it is too rich, and there is also acidity in the soil, which is most harmful to all members of the Dianthus family. Limestone Rock is the natural and best form of lime for all types of Dianthus, also for any type of soil. Anywhere in the world where we find Dianthus growing in a wild state limestone rock is always in the soil itself, or else forms the sub-soil or foundation of it. This is a remarkable fact—but what is more remarkable still is that while this was recognized, few, if any commercial growers used limestone chippings themselves, or offered them to their customers. Also, the horticultural chemist considered all forms of lime the same. This is not so; there are a great variety of limes. The old idea, which was reasonably sound, was to use crushed chalk for very light soil, old mortar rubble for soil of medium texture, and quicklime for heavy or clayey soil. But I have conclusively proved to my own satisfaction that limestone, either as dust for light soil, or as chippings for other soils, supplies lime in the perfect form, and does not purge the soil, but in some

wonderful way counteracts acidity in the soil. You notice that in some soils the chippings will remain present for several years, while in others they dissolve and gradually disappear. The fact is, that acidity is the mortal enemy of all Dianthus, causing disease and eventually death to the plants, but as long as limestone is present in the soil, there will not be any acidity.

It has always appeared to me that limestone was the foster-mother of all the Carnation tribe, and the one essential element which has been neglected by all. You will rarely, if ever, find it so much as mentioned in the old books on the subject of Carnations.

The best way of using limestone is to top-dress your soil with it. The main use of lime in the soil for Carnations is that it liberates and makes available valuable plant food in the soil, and also acts as a tonic to the plant.

Burnt Earth

The great value of this consists not only in the potash it contains and its special help in lightening and giving drainage to heavy soil, but also in the wonderfully stimulating effect it has upon root action, especially with all members of the Dianthus family. It supplies something which is beyond the reach of the chemist. However, use it sparingly because you can have too much even of a good thing! Undoubtedly, the best burnt earth is obtained from burning heavy clay soil, but a good substitute is bonfire ashes, providing a good proportion of soil is burnt with the refuse.

Planting

You can plant Border Carnations in your garden during Autumn, Winter or early Spring. I prefer Autumn planting because the plants will produce more flower during the following summer. However, it is not wise to plant them closer together than 12 inches; but in a favourable position where the plants will remain for several years, not less than 18 inches between each plant is wise, although not absolutely necessary.

The expert grower, both amateur and professional, who produces these flowers of exquisite perfection for exhibition, produces them from plants growing in large flower pots with the protection of glass. They layer their plants each summer so as to get the first flowering from young plants, but this is not necessary for a garden display, because the old plants should make great clumps in the garden under favourable conditions.

Never forget that Carnations, indeed, all members of the Dianthus family, resent being grown on the same soil year after year, because they take from the soil a little more than we quite understand. We cannot replace with a Carnation food all that they extract from the soil. Its hidden powers, and the somewhat speculative results which we may or may not obtain from it, add to the glorious uncertainty of horticulture, for none of us is dead to the pleasure of hope.

Layering

Layering is a natural process of propagating some classes of plants which emit roots at nodes and joints when in contact with moist earth.

In the case of Border Carnations we take advantage of this phenomenon by deliberately cutting the stem through a joint. It will be recognized that plenty of strong roots at the commencement of the plant's life form the essential foundation on which to build its future growth and well-being. A rooted Carnation layer should be potted off into a small-sized pot previous to being planted out in the garden.

In a short space of time it is impossible to deal with every aspect of the life of the Border Carnation, and so such topics as Layering, are best described with the aid of a film or lantern slide. While, as to methods for dealing with the various grades of soil, heavy, poorly drained, or its opposite, light sandy soil, all this information can be read in books, remembering that all Carnations dislike peat and leaf mould, but enjoy in moderation, limestone chippings and ballast. This we must remember, that Carnations are distinct from all other forms of plant life, so that in the matter of artificial feeding you must have a slow acting food and not a highly concentrated fertilizer, and this information should be obvious to all thoughtful growers.

The Scent of Carnations

It is a common notion that we have lost much of the fragrance in our modern varieties of Carnations, but I have always contended that you never get bright colours in any member of the Dianthus family with a strong scent. Fragrance, and especially that delightful Clove perfume, is only found with any noticeable strength in whites, crimsons, dull reds or pinks, and so on; a few yellows have fragrance, but, at least it is only discernible on most favourably warm and sunny days. Our ancestors, who so appreciated fragrance in flowers and popularized the Mignonette, Heliotrope, Violet, Lily of the Valley, etc., were content with imperfect and small blooms with dull colouring; they did not demand everything in a single flower.

Undoubtedly, the introduction of yellow-coloured Border Carnations, especially the German kind "Germanier," weakened the fragrance in the offspring—this we all readily admit—yet at the same time it did light up the colourings in brilliancy, especially all the beautiful yellow-ground varieties, coloured varieties raised by that master hybridist, MARTIN R. SMITH. Here again you do not get all the virtues in a single bloom. Yet the public get a government they vote for, also the kind of Carnation they will pay for, and, strangely enough, they expect the perfume of a Carnation gratis. If you claim richness of perfume in a new kind, it does not enhance sales to any great extent; you generally find that the public only complain of a Carnation if it has only a little fragrance; yet they hesitate about paying more money for the plant that has beauty enhanced by fragrance.

It is perfectly easy to breed varieties with rich perfumes if you put that quality first, so sacrificing bright vivid colours, which usually attract the most attention, and therefore have the greater selling value. However, we are now developing the Clove perfume in certain new kinds of Carnations in all the various types, or races, because we think that in these days of small gardens, and the appreciation of details, as the Victorian appreciated them, fragrance will come back into favour; yet

the inference is that you must be prepared to sacrifice brightness in the colours of the flowers, and, all too often, the size also of the flower, which, in itself, may be a good thing, showing that anything which is over-developed loses some of its natural virtues.

Border Carnations from Seed

The most important step is to obtain the best seed procurable, whether bought from a specialist, or home-saved, because it will be seen that this plays the principal part, otherwise valuable time, room, labour, money and interest will be wasted in fondling seedlings predestined to fail. The principal aim in view should certainly be to raise a seedling of excellence; coming as near as possible to perfection in all respects.

Sow the seed thinly, and cover it with never more than $\frac{1}{16}$th inch of soil. Through a fine rose allow sufficient water to reach the bottom of the pan. In 4 weeks prick off the seedlings in seed trays. Spring and Summer are the best seasons for sowing.

To succeed in cultivating any plant, you must first of all learn its requirements, its likes and dislikes, all of which you gather from books, but all the details in its cultivation, which are mainly peculiar to your district, these you must discover for yourself or glean the information from your neighbours, and here I consider is the reason why we gardeners are such a happy folk—we like helping each other, in fact we feel a wee bit flattered when others consult us.

If we in Sussex have any secret in our success in growing Carnations, it certainly is not the district. We have to cope with a heavy rainfall, and tenacious soil. Perhaps our use of organic manure exclusively, and also of burnt earth and limestone, materially improves the mechanical conditions of our soil in Sussex, with such stimulating effects upon the root action of all members of the Dianthus family. It is that little essential something which is beyond the reach of the elements. And so you too can experiment in the methods of growing your plants—that is the sport of it all, the study and perfecting of details until perfection is reached.

One is always being asked for a selection of the best varieties, and it is quite easy to supply names—in fact there are few bad kinds—but these can be obtained from any reliable Carnation catalogue. You select the colour you prefer personally, I should put the Clove-scented kinds first, perfume which made the Carnation famous. All these kinds have the word "Clove" after their names. Next I should place the Cottage kinds for garden display and extreme hardiness, then you can add the more perfect Exhibition varieties of Border Carnation, which have reached a high stage of development in perfection, in all details of the flower. The old Picotees are too beautiful to be excluded from any collection; then you have White-ground and Yellow-ground coloured varieties. There is a wonderful feast of colour in the Border Carnations.

THE COOKING OF VEGETABLES

Monsieur J. Vincent

(*Lecture given on June* 13, 1950, MR. F. A. SECRETT, C.B.E., F.L.S., V.M.H., *in the Chair*)

IT is difficult to understand why the vegetables are treated so badly by so many cooks or would-be cooks, and also why so little imagination is used in their preparation. Very often one may think that in early spring there are only spring cabbages; in late spring, peas; in summer runner beans, and in winter either savoys or sprouts. It is surprising how comparatively few people know what spinach is, or chicory, or globe artichokes, and many other vegetables. The aim of this lecture is to give you an idea of how the same vegetables can be cooked in different ways—and how the mixing of some of them can produce an attractive range of dishes.

Fortunately, we are in a season where everything in the garden is young, or should be, and at its best; and I want to stress one point, which is, that whatever your choice, make sure that what you are buying is fresh. There is no flavour left in vegetables that have been first overheated in packages and left on the shelves of the greengrocer, with the sun shining on them all day. The ideal is to gather vegetables before the sun is hot and to cook them as soon as possible. Too often vegetables are gathered during the heat of the day, placed in bags or boxes without being cooled off. The result is that with peas, for instance, 60° of heat can be registered in the bags sent to the market. Whatever the cook does with these, he will never recapture the freshness they possessed when picked. It is also useless to buy peas or beans, for instance, which are old, that is, which have passed their best. Like human beings, they deteriorate when they grow too old, which is a consolation for us all.

Now, let us see what the good earth gives us at this time of the year! Spring cabbages, peas, French and broad beans, asparagus, tomatoes, marrows, cucumbers, lettuce, and new carrots, turnips, potatoes, spring onions, and from abroad Globe artichokes; quite an array!

Let us take each one separately and see what we can do:—

Spring Cabbage. Why must this much abused individual be always cooked in rivers of water? Why throw all its goodness away? Try to cook it in these ways.

After it has been trimmed and washed, shred coarsely. In a stewpan, place a piece of butter, or bacon fat, allow to heat up, throw in your cabbage, stir with a wooden spoon, on a low fire; when it has become limp, add salt to taste and cover with a lid. Cook until tender, very slowly. When cooked add a little pepper. That's all. Another way: Cut up roughly and cook in just enough salted water to cover; drain well and replace in a saucepan, adding some butter and a little pepper. Never add pepper when cooking, but just before serving, it makes all the difference. Now, do you want something more elaborate? Very well.

Later in the season, when cabbages are well hearted, select a good firm one, trim it and wash well. Cook whole in salted water for about five to eight minutes. Remove carefully, drain, and place on the table. Open each leaf one by one flat on the table. Have a farce consisting of good pure sausage meat, chicken liver passed through the sieve, a little bread-crumbs, chopped onions previously cooked, one or two eggs, season well. Spread the mixture on each leaf, ¼ inch thick, starting by the middle and continue until the cabbage is completely reformed, place in a braising-pan, add two or three cloves, six peppercorns, and cover half way with a good brown stock. Season, bring to the boil and braise, covered, for about one hour. Remove carefully on a dish, reduce the stock to a liquor and pour over. All varieties are good for these ways of cooking, although I prefer 'Winnigstadt' for the two former ways. There are other ways of cooking them but I have not the time to deal with them.

Peas. There are several ways of cooking peas. The most common being with mint, but even this simple way of preparation is very often a sham. A good amount of mint is required and very often sugar, which is scarce, and here again not too much water; salt is often forgotten, but soda is always thought of. Why? If the peas are hard, no amount of soda will make them tender or palatable, so why use it? To keep them green? Try some coarse salt, it is much better. I think that much more discrimination should be exercised by the housewives when buying peas. How many times have I seen women buying peas which were good enough for the compost heap? Often because they are cheap, but are they? First, they will not cook, therefore wasting fuel, and secondly they are not eaten, which is throwing them away, so, why buy them at all? One French way of cooking peas is as follows: they are called Peas *à la française* (French style). For one pint of freshly gathered and shelled peas, one lettuce, six new button onions, one ounce of butter, a level tablespoonful of sugar if the peas are not sweet enough, or less if they are; salt and pepper to taste; six tablespoonfuls of water. Place peas, onions, seasoning, water in a saucepan; cut the lettuce in four and add to the rest, shake the saucepan a little and let it stand for fifteen minutes to half an hour. Cook fairly quickly, keeping covered all the time. Quite simple. Some people add a little flour and prefer it. If you want to try it, add one dessertspoonful to the lot and proceed as stated before. If you want to give it a different taste, add two or three sprigs of savory or sage, the taste is quite pleasant. You can also add a few new carrots cut in four, and a few very small lardoons of bacon, previously parboiled. But for those who dislike these mixtures, if you cook your peas in salted water, drain them well and add a good amount of butter and a little sugar, toss the lot well together, you will have there, something excellent, but remember that the peas must be fresh and the butter of first quality (varieties, *Petits pois*, 'Little Marvel,' etc.).

French Beans, or *Runner Beans*. With these, there are also several ways of preparation. French beans are usually gathered far too large and are therefore stringy, and this can be very annoying when eating them. As regards runners, no cutting up and no machine will make them tender when they are tough. And why buy them tough? You have

to remove half of them and it takes time, so when you have finished they cost you double what you have paid for them.

Here again, why use soda? It is quite unnecessary, and coarse salt is the best. Fifteen minutes boiling should be enough, if it takes longer it is because they are tough. When cooked, drain well, replace in the saucepan, add a knob of butter, some finely chopped parsley in relative quantity and a little pepper. Toss together without heating. Or try this way: Heat some butter in an omelette pan, when it begins to sizzle, throw the beans in, and allow them to colour lightly, tossing from time to time, sprinkle with chopped parsley just before serving. French beans can also be finished with fresh cream in place of butter. Proceed as follows: after being cooked, drain perfectly, replace in the pan and add a relative quantity of fresh cream, or top of the milk (as we have no cream to use yet).

While we are on the Beans subject, I must mention the fresh haricot bean, the Soissons Climbing Variety, and the Green Flageolet Bean or Chevrier. These two varieties are excellent in the fresh haricot beans form. Cook them in salted water with a faggot of parsley. Drain well and toss with a good piece of fresh butter and a sprinkling of chopped parsley. For those who like it, an onion cooked with them gives them an attractive flavour. In the dry stage, buy the Haricot *Comtesse de Chambord*, cooked with a small onion with a clove inserted, a small whole carrot, a small faggot consisting of parsley, one small sprig of thyme and a fragment of bay leaf. A piece of streaky bacon can be added to it, cooking it together. These can be finished with a knob of butter and chopped parsley or, when drained, can be added to a good tomato sauce.

Lettuce. When lettuce are plentiful, why not try to braise them? It is a change from the eternal salad, very often badly seasoned. The process is simple. Clean and wash the lettuces, plunge into boiling salted water and cook for several minutes. Remove them and refresh. Press them gently to remove all water. Place in a saucepan side to side, add a good piece of butter, salt and pepper to taste, and barely cover with water. Allow to boil gently for about 30 minutes. (This is the simplest way of doing it, the professional way would be too long for the ordinary housewife.) When cooked, remove from the pan, reduce the liquor quickly to a syrup and add one or two tablespoonfuls of cream. Pour over the lettuces and serve.

Spinach is an excellent vegetable, very often as maltreated as the cabbage. Generally speaking, too much water is used for cooking it. After being washed several times and lifted out of the water, plunge in 1 inch of boiling salted water, turn over and over with a wooden spoon and cook for five or six minutes. Tetragonna or New Zealand spinach needs a little longer. When cooked remove in a colander and press strongly to remove all the water. Now, two ways are open to you for the finishing touch. One: place a piece of butter in a pan and throw the spinach in, as it is, season with a little salt if necessary and a little pepper, warm thoroughly. If you like it, a little crushed garlic is added to it. This is the Spinach *à la Florentine*, minus anchovy fillets. Two: Put the spinach through the mincer or through a sieve. Place some

butter in a saucepan and allow to sing. Add the spinach and heat thoroughly, stirring with a wooden spoon. When hot, add one-third of the volume of Bechamel sauce and a relative quantity of cream, or add cream only if preferred. Season to taste, salt, pepper and one or two rasps of nutmeg.

Marrows. As you know, this vegetable is 95 per cent. water, so why cook it in water? And why use them when they are very large and very coarse? Try this way: Peel and cut in halves, lengthways. Cut in half again and slice $\frac{1}{2}$ inch thick. Prepare a relative quantity of *concassées* tomatoes, that is, peeled, cut in half, remove pips and water and cut in pieces $\frac{1}{4}$ inch square. Chop a small onion, finely. Heat two or three tablespoonfuls of olive oil in an omelette pan, when smoking hot add the sliced marrows, and toss now and then; after two minutes add the chopped onion and continue to cook, tossing it together now and then; when nearly cooked, add the tomatoes, season to taste and continue to cook with a lid on. This will take about ten to fifteen minutes. When cooked sprinkle with chopped parsley, mix and serve. Large marrows are not used on the Continent. They take them when 7 or 8 inches long. They are peeled, parboiled, the pith removed, and stuffed with cooked rice, mixed with mushrooms or chicken liver or even sausage meat and baked with either brown gravy or stock. They may be sprinkled with grated cheese and bread-crumbs and *gratinées.*

Choux fleur Polonaise. There are better ways of preparing cauliflower than just plain boiling, and this is a simple way of preparing them, although it is, in my opinion, one of the best. When the cauliflower has been cooked in buds, it is drained and tossed in nutty butter, well seasoned, and placed on the service dish. The rest is prepared as follows: Place a good piece (two ounces) of butter in an omelette pan, when it begins to sing add three or four tablespoonfuls of fine bread-crumbs and allow it to become a golden colour, tossing it all the time, on a good fire. When it is nicely golden, add one finely chopped hard boiled egg and one teaspoonful of chopped parsley. The mixture will become frothy, it is the time to pour it over the cauliflower which has been kept hot in the meantime.

Now there is something quite easy to prepare and which is good if you possess a garden with all sorts of vegetables ready to pick. Gather an equal quantity of peas, French beans, carrots, turnips, new potatoes, small spring onions, two sprigs of parsley, one sprig of thyme, one fragment of bay leaf, two leaves of sage or savory. Place all this in a saucepan, the larger vegetables cut up to a reasonable size, add a good piece of butter, salt and pepper to taste, cover half-way with water, place a lid over the whole and cook briskly for twenty to thirty minutes. Practically all the water will have evaporated when it is cooked. You may add three or four tablespoonfuls of cream and allow it to boil, and serve. I think you will like it.

SOME NEW VIRUS DISEASES OF ORNAMENTAL PLANTS

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THE statement has been made often enough in recent years that virus diseases of plants have greatly increased in number and many viruses, of importance now, had not been heard of a few years previously. There can be little doubt that virus diseases of plants are increasing in number and importance, and that apparently new viruses are continually turning up. Some of these appear for a time and cause some trouble and then disappear again, remaining only as subjects for study in virus laboratories. Among these may be mentioned the viruses of Tomato bushy stunt, Tomato black ring, Lovage mosaic, *Arabis* mosaic, and others.

The explanation of the appearance of previously undescribed viruses is not easy. It can no doubt be partly explained by the importation of virus-infected vegetative parts of plants from abroad, as witness the Lily virus disease described in this article. The same is probably true of the Tulip viruses which are dealt with here. But this is not the whole explanation, and we do not know where the two viruses, which suddenly appeared in *Tropaeolum* in the same garden, have come from.

Whilst the virus *diseases*, briefly described here, are all new so far as the writer is aware, it is not yet definitely established that the causative *viruses* are all new ones although some almost certainly are. Further work may show that some of them are related to, or may be strains of, viruses which have been already described. The Lily viruses may have affinities with Cucumber mosaic virus which is known to appear in a variety of very different strains, and one of the viruses from *Tropaeolum* may be related to a virus of great economic importance which attacks brassica crops. A good deal more work must be done on the eight viruses, briefly dealt with here, before it can be said definitely whether they are, or are not, related to any of the known viruses.

In the meantime, it may be of interest to give a short description of these virus diseases which affect well-known ornamental plants so that the reader may recognize them if they occur in his own garden plants.

LILY RINGSPOT VIRUS

Hybrid Lilies from the U.S.A., showed a faint mottling of the leaves which later disappeared. The plants were not stunted and appeared otherwise normal with normal flowers. Inoculation from these Lilies to the usual test plants produced a virus disease of very characteristic appearance on tobacco and *Nicotiana glutinosa*. The symptoms consisted of concentric rings with a central spot, ring and line patterns, and, in *glutinosa*, a characteristic yellow veined mosaic. (See Fig. 185.) According to the literature on the subject, the only virus recorded from Lilies which also attacks tobacco and *N. glutinosa* is that of Cucumber mosaic. So far as the tests go they suggest that this virus is

not a Cucumber mosaic virus. There seems to be no cross protection when a special "white" strain of Cucumber mosaic virus is used to test a possible relationship. However, these tests are not conclusive and do not preclude an affinity to Cucumber mosaic virus which may be revealed when more experiments have been done and when it is possible to test the serological relationships of the virus.

Experiments to find the insect vector of this Lily virus have shown that it is transmitted by the common aphis *Myzus persicae* which can pick up the virus after a short period of feeding.

Transmission of the Lily ringspot virus to such Lilies as *L. tigrinum* and *L. regale* reveal the potential importance of the virus in this country. About ten days after inoculation, dark ring-like markings develop on the leaves. These change rapidly into dead (necrotic) areas which spread through the plant. The growing point is killed out, and no flowers are formed; the whole plant is stunted, twisted and deformed. (Fig. 184.)

In the case of *L. tigrinum*, the plant may be killed outright, but with *L. regale* a certain amount of recovery has been observed, in that the plant continued to grow although it failed to flower.

It is rather curious that the reactions of the American and the English Lilies to this virus should be quite different, so mild in the former and so severe in the latter. It is possible, however, that a clue to this is contained in the apparent partial recovery of *L. regale* infected with the virus. It may be that next year this plant will show only the mild mosaic characteristic of the virus in the American species of Lily. In other words, the initial disease may be severe but after that, if the plant survives, a kind of balance is struck between virus and plant. Judging by the high percentage of infection among the Lilies from this consignment from U.S.A. something of this kind seems likely.

Among the large number of Lilies infected with the ringspot virus was one which contained a virus differing slightly from the first. This virus, also of the ringspot type, produced no visible symptoms on the American Lily and does not appear to infect *Nicotiana glutinosa*. Its reactions on Lilies in this country have not yet been studied.

WHITE STREAK OF TULIPS

Up till recently, with the exception of the classical Tulip break virus, this plant has been fairly free from virus infection. Now, however, the situation seems to be changing. We have seen the recent infections of tulips with the virus of tobacco necrosis which seems to be widespread and now there are two more apparently new Tulip viruses to record.

The first of these causes a disease, tentatively called *white streak* of Tulips, and is illustrated in Fig. 186 (top left). The leaves are covered with white streaks or stripes running parallel along the length of the leaf as shown in the photograph. The affected plant was abnormally small and stunted and the flower was also small and degenerate. At first sight, the plant was thought to be infected with the tobacco necrosis virus but inoculation tests showed that this was not the case. The symptoms produced in tobacco and *N. glutinosa* were extremely characteristic and consisted of very large circular necrotic lesions which gradually increased in size. (Fig. 186 (top right).) So far the symptoms produced on the test

plant have all been necrotic, that is to say, the cells are always killed; no mosaic mottling has been observed. As a rule the virus remains confined to the inoculated leaves of tobacco and *N. glutinosa*, but not always. In tobacco the virus may travel up the leaf petiole and enter the stem, killing out a circle of the stem in a characteristic manner. The xylem is apparently unharmed as the plant continues to grow and the only effect of the virus remaining is the characteristic blackened circle at the base of the stem.

On *N. glutinosa* the virus sometimes spreads right through the plant killing the tissues as it goes. Such a plant remains in a moribund condition until it finally dies.

There is no information yet on the method of spread of this Tulip virus; tests with the aphis *Myzus persicae* have so far proved negative. It may, however, be carried by another common species of aphis which is frequently found on Tulips. The virus, which is not quite like any with which the writer is familiar, has some of the characteristics of the virus of Tomato spotted wilt but differs from it in its capacity to remain infective in extracted sap for four days or longer.

Since Tulips this year, generally, have shown many symptoms of disease, some further tests were carried out on a number of Tulip plants, and a second virus was isolated from a Tulip showing numerous dead patches on the leaves. Not much is known as yet about this second Tulip virus and it is only briefly mentioned. On *Nicotiana glutinosa* the virus produces small circular lesions and on French Beans it gives rise to numbers of small discrete lesions of a reddish colour which later turn paler. They do not spread at all and this differentiates them at once from the lesions caused by the tobacco necrosis which is now commonly found in Tulips.

TROPAEOLUM RINGSPOT

Two years ago in the writer's garden a single plant in a row of Broad Beans developed a characteristic mosaic disease which was quite different in appearance from the ordinary Broad Bean mosaic. The leaves were blistered and crinkled with patches of dark green on a light green background. Inoculation tests to tobacco and *N. glutinosa* showed that the bean was infected with an apparently undescribed virus of the ringspot type. (Fig. 186 (bottom left).) Later in the year a number of Nasturtium (*Tropaeolum*) plants, some distance from the Broad Beans, also developed a disease consisting of mottling of the leaves with necrotic spots and a stunting of the whole plant. Tests showed that this disease was caused by the same virus which had been observed earlier in the Broad Bean plant. The virus has a wide host range and will infect a variety of ornamental plants including the Petunia. On the flowers of this latter plant it sometimes produces large numbers of concentric rings, giving a most bizarre effect to the petals. The virus is carried by the black Bean aphis, *A. fabae*, and by the Potato aphis, *Myzus persicae*.

TROPAEOLUM MOSAIC

In the year following the appearance of the ringspot virus in the Nasturtiums, a second virus disease was observed also in Nasturtiums

which had arisen from seed remaining over from the previous year's crop. The symptoms differed somewhat from those of the first disease in being a brighter mosaic mottling, with less distortion of the plant. (Fig. 186 (bottom right).) The flowers showed a distinctive colour break. This virus could also be easily distinguished from the first virus by its reaction on various test plants. It somewhat resembles in its symptoms on *Nicotiana glutinosa*, the disease caused in the same plant by the Cabbage black ringspot virus which gives rise to the well-known colour break in Wallflowers. This latter virus, however, does not appear to infect *Tropaeolum*. Experiments have shown that *Tropaeolum* mosaic virus is also transmitted by the aphis, *Myzus persicae*. The black Bean aphis has not been tested as a vector of this virus.

It is rather interesting that two apparently undescribed viruses should occur in successive years in the same plant species and it might be thought that the second virus is a mutation or derivative of the first. However, such experiments in cross-protection which have been carried out do not seem to support this theory.

Two other apparently undescribed viruses affecting ornamental plants are described briefly, but not much study has as yet been carried out on them and the method of spread is not known.

The first was found infecting some plants of *Phlox paniculata* in a garden in Cambridge. There was very little mottling but the leaves were grossly distorted with the leaf blades reduced, in some cases, to mere strings (Fig. 187). Inoculation to the usual test plants gave a virus which produced a faint ring and line mottling on tobacco. On *Nicotiana glutinosa*, however, the symptoms were very much more severe; something of the same distortion exhibited by the infected *Phlox* plants developed together with large patches of dead cells. Such plants are frequently killed outright. Preliminary attempts to infect the Cucumber plant with the *Phlox* virus were unsuccessful.

The second virus is somewhat unusual because it was isolated from a *Buddleia* sp., probably *B. Davidi*, some branches of which had been sent in for examination. So far as the writer is aware, no virus disease of *B. Davidi* has been recorded before. The leaves showed a typical mosaic mottling with a certain amount of crinkling and distortion (Fig. 188). Inoculation to tobacco plants gave a mottling disease of dark and light green patches without any of the usual ringspots. No infection developed in *Nicotiana glutinosa* or Cucumber.

It should perhaps be emphasized that neither the *Phlox* virus nor that from *Buddleia* has as yet been carefully studied and further work may suggest relationships of these two viruses with other viruses already described.

AMATEUR PLANT HUNTING IN THE ANDES

M. W. Spitta

FLYING low over the Argentine plain, from Buenos Aires south-westward for some 600 miles, on the first stage of a trip to the Argentine and Chilian lake districts, in the middle of October, in a small plane which reflected every ripple of the fields below, we tried to picture the English garden plants we might expect to find out here in the wild. I knew that some of the Barberries came from South America, that Embothriums and Eucryphias grew in Chile, and it seemed likely that the so-called southern Beeches would appear in this part of the world, latitude 42° S. Of other tender species which might have become established in our milder districts at home I had little knowledge, my acquaintance with English gardens being confined mostly to those of the southern counties. I emphasize this ignorance, because I hope what follows may be an encouragement to other amateurs like myself, who without being a botanist or a horticulturist in the expert sense, was yet able to enjoy all the thrills of identifying familiar and unfamiliar species in distant places, to find plant hunting one of the absorbing pursuits of the world.

Driving from Bariloche airport on Lake Nahuel Huapi, our destination on the Argentine side of the Andes Mountains, the eagerness with which we looked around us can be imagined. It was early spring here in the southern hemisphere—what should we find? Building plots lined the road to the hotel for the most part, but in between glimpses of wild *Berberis Darwinii*, of patches of ground-purple (a brilliant form of vetch, sky blue and maroon) and here and there what looked like a stocky yellow Orchid in the grass increased the excitement. The next day we rowed around the lake and seeing a scarlet flower (the Chintral) among the high overgrowth of the cliff, found a landing place, pushed our way in and thus found ourselves, without warning in virgin forest of *Nothofagus Dombeyi*. Thereafter we found that the Coigues, (the common name for this species in South America) covered the mountain sides above the lake, and grew all over the countryside, except for widespread clearings for buildings, mostly hotels and lakeside chalets, in spite of the area having been scheduled as a national park so long ago as 1906. I had seen *Nothofagus Dombeyi* in English parks and gardens, some growing well, others rather ragged, but none to the best of my recollection more than 20–30 feet high. Here in the Argentine forest trees 120 feet high were quite usual, up to 150 feet were not uncommon and by sun and shadow we calculated several to be 175 feet high, with a girth of 18–22 feet at 5 feet from the ground. It has been said that the Coigues combine massiveness with grace. (Fig. 183.) No truer description could be given of them in the wild, whether seen from the forest roads, over which they form an immense transcendent canopy, or standing among them on the mountain sides, their giant boles chequered with olive-dark glistening leaves, in no way sombre but giving an impression of fern-like coolness. Beautiful as they are grown as lone specimens, with branches skirting the ground, I doubt whether anyone who has

Photo, W. Ahbing

BORDER CARNATIONS

Fig. 177—The super-hardy Cottage Border Carnation bred from the old English variety 'Rifleman'

Photo, W. Abbing

BORDER CARNATIONS

Fig. 178—Light and heavy-edged Picotees

Photo, W. Ahlers

BORDER CARNATIONS

Fig 179—Fancy Border Carnations

Photo W. Anning

BORDER CARNATIONS

Fig. 180—Border Selfs

BORDER CARNATIONS

Fig. 181—Bizarres. The old Elizabethan type of Carnation

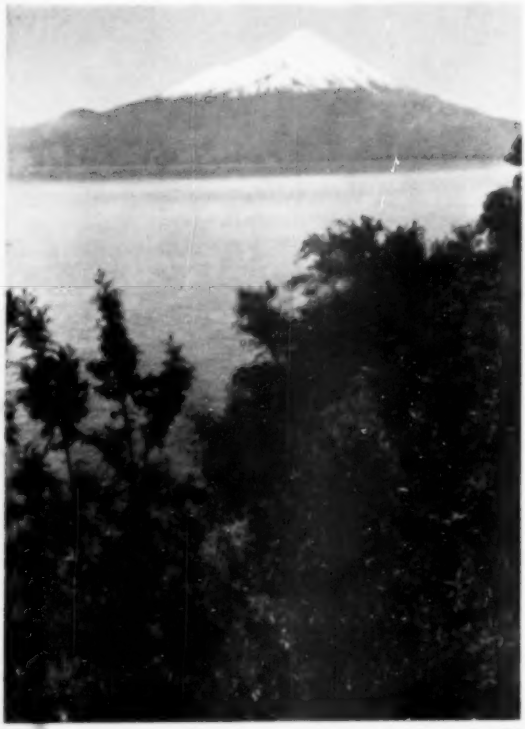


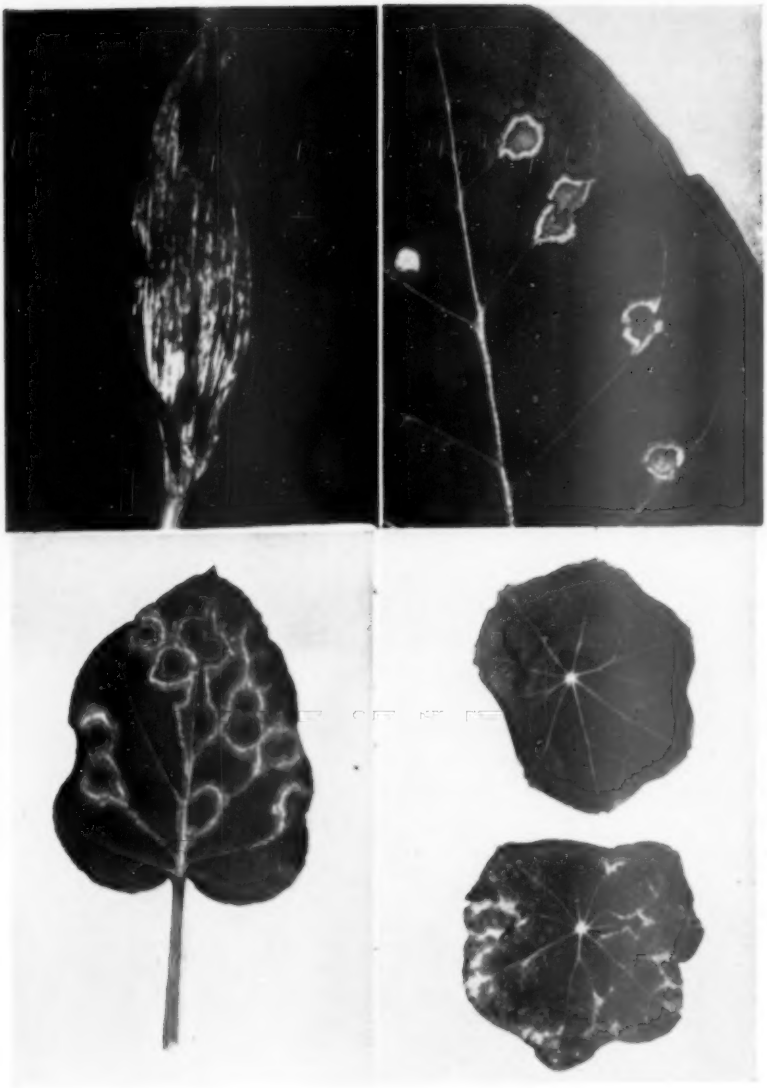
Fig. 182—A bank of Embothrium above Lake Llanquihue with Mt. Osorno in the background (See p. 357)

AMATEUR PLANT HUNTING IN THE ANDES

Fig. 183—*Nothofagus Dombeyi* in Argentine woodland. The placard on 'Abuelo' (grandfather) in the centre gives a girth of trunk of 18 feet 5 feet from the ground, its age 600 years! (See p. 354)

Fig. 184—The plant on the right is a hybrid Lily from U.S.A. infected with the Lily ring-spot virus, the plant on the left is *L. tigrinum*, which has been inoculated from the American Lily. (See p. 350)

Fig. 185—Leaf of Tobacco showing the symptoms produced by the Lily ring-spot virus (See p. 350)



SOME NEW VIRUS DISEASES OF ORNAMENTAL PLANTS

Fig. 186 (top left)—Leaf of Tulip showing the symptoms of the white streak disease (See p. 351)

(top right)—Leaf of Tobacco inoculated from the Tulip shown on the left. Note the curious lesions which develop (See p. 351)

(bottom left)—Leaf of *Nicotiana glutinosa* inoculated from a plant of Nasturtium infected with Tropaeolum ring-spot virus (See p. 352)

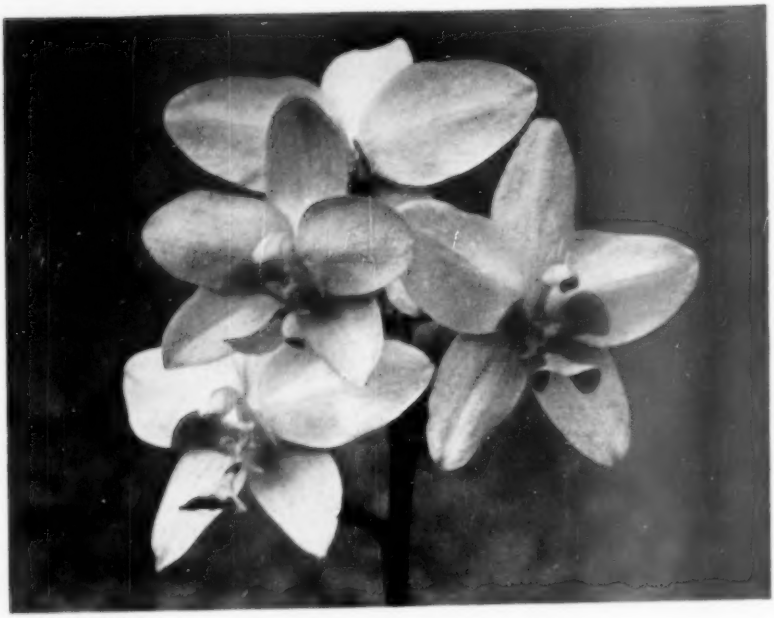
(bottom right)—Leaf of Nasturtium showing symptoms of Tropaeolum mosaic, normal leaf for comparison above (See p. 352)

SOME NEW VIRUS DISEASES OF ORNAMENTAL PLANTS

Fig. 187—Leaves of *Phlox paniculata*, infected with a virus. Note the great distortion of the leaves. (See p. 353)

SOME NEW VIRUS DISEASES OF ORNAMENTAL PLANTS

Fig. 188—Leaves of Buddleia, probably *B. Davidi*, infected with a mosaic virus. Note the mottling and distortion of the leaves (See p. 353)



Photo, G. H. Addison

Fig. 189—Spathoglottis 'Dwarf Legion,' var. 'Sunrise.' One of the best of the third generation Spathoglottis

Photo, Messrs. Maston

Fig. 190—*Iris sustana* in COL. C. H. GREY'S garden at Malton, Yorkshire

Fig. 191—The first Cypripedium hybrid raised in Singapore, April 1950. *Cypripedium* × 'Millmannii,' Botanic Gardens, Singapore

Photo: M. H. Henderson

Fig. 192—Aranda 'Alastair' (*A. Hookeriana* × *V. limbata*) at the Botanic Gardens, Singapore, May 1950. One of the new free flowering Vanda-Arachnis hybrids (See p. 365)

Photo. Dr. Stewart

Fig. 193—*Myrtus Lechleriana* in Cornwall (See p. 360)

seen them growing closely in their natural groves would ever again choose to plant them singly, unless for economy of space.

We were told by the head forester of the arboretum at Temuco that the seed of *N. Dombeyi* loses its vitality very quickly. This may be true of others of the genus, hence the failure of so many seeds which have been brought over, even by air, to England, and the importance of getting them off in as fresh a condition as possible. The woodland floor under the Coigues was noticeably thin, and though we searched in likely pockets for old seed, found none.

Of other Nothofagus species on the Argentine side we found only *N. antarctica*, which appeared always on low-lying swampy ground, and what we believe to be *N. pumilio*, in young spring green, growing high up above the Coigue line and living apparently happily on the fringe of the snows; we were told that it grows up to 6,000 feet above sea level. It was generally difficult to get reliable information, however, the common names covered such a wide field—the 'Roble' for instance being the colloquial name chiefly for *N. obliqua*, but including also *N. antarctica*, *betuloides*, *nitida*, *pumilio*, and even *Quercus pedunculata*!

Associated with *N. Dombeyi* in the Argentine forests were *Aristotelia Macqui*, *Lomatia obliqua* (radal) and *ferruginea* (what other genus produces two such dissimilar species?), *Laurelia serrata* and *aromatica*, *Weinmannia trichosperma*, *Azara microphylla* and *lanceolata*, *Desfontainea spinosa* and *Myrtus Luma* (*Eugenia apiculata*), trees up to 40 feet high, all showing the characteristic milk-white patches under cinnamon bark. The beauty of *N. Dombeyi* and *Myrtus Luma* growing together in the wild was striking—particularly in glades which had been cleared of undergrowth and the usual forest debris of fallen tree trunks, when half light intensified the contrast of copper and platinum grey stems, and accentuated their extraordinary flair for grouping in attitudes of utmost grace.

Of shrubs in the Argentine Lake district, *Berberis Darwinii* was coming into flower when we arrived and reached its peak in ten days. It cropped up everywhere, from straggling plants in the woods to big clumps scattered thickly over open commons, as with gorse country at home, only turning clear orange instead of gold. *Berberis linearifolia*, more fastidious and less prevalent than *Darwinii*, we first found in what are probably ideal conditions, clearings among light scrub on the damp margins of a stream running through sheltered ravine. Here, *Darwinii* and *linearifolia* were crowded together, the latter dominating and growing faster, with seedlings of the hybrid *lologensis* thick on the ground between, displaying every variation between the parents as to leaf; we did not see one in flower. Given congenial conditions and room to spread, there was nothing to choose between *Darwinii* and *linearifolia* seen en masse at a distance either as to stature or degree of flowering; but the more tender flame-pink colour of *linearifolia*, and its larger flowers, to us gave it first place, deserving of more perseverance and widespread cultivation in English gardens than it appears yet to have had. The importance to it of moisture was very evident in the wild. Of other barberries we identified *B. buxifolia* by the leaf, but there were several others we did not know, including one with rather a glaucous

leaf and arching sprays crammed with yellow very fragrant flowers. We found also *Fabiana imbricata*, *Colletia armata*, *Buddleia globosa*, and *Pernettya mucronata*. The pernettyas grew abundantly, on the undersides of banks overhanging the roadsides, in clearings of the woods, among boulders by the water's edge, but always shaded on one side. A particularly beautiful variety, which seemed to prefer woodland conditions, grew 4–5 feet high, its flowers, like Lilies of the Valley, swung on long pedicels from the undersides of the leaves, some in clumps with fine rosy-brown hairs on stalk and calyx, others in a continuous line, every branchlet strung from tip to stem with waxy white bells.

Of wild flowers there was no profusion, due to the generally dry conditions—rainfall being considerably less on the east than on the west side of the Andes. The yellow Calceolaria (topa-topa colloquially) was most prevalent, growing singly or in small clumps for the most part but colonizing in hundreds any shady moist south banks. With one, and sometimes two-three heads on tallish stems, and bright golden bags conspicuously inflated, the species we saw was probably *C. polyrrhiza*—"an indispensable and indestructible charmer," (FARRER, *The English Rock Garden*). A small yellow creeper we could not identify twined its ropes high up in the trees and perfumed all the air around, with a scent I am told like *Olea fragrans*. The ground was carpeted with a little yellow Viola, more in bloom as we went westward, and unlike the alpine flower in having a slightly upward tilt of the head. We were much struck, too, with an herbaceous plant, the botellita (little bottle), which crowded by waterfalls, clinging apparently without substance to the rock face and shaking diminutive crimson bells in the teeth of the spray.

We crossed from the Argentine westward into Chile from Las Freias to Peulla, the pass through the Andes between these frontier points being not more than 3,000 feet high, but steep enough to cause us anxious moments as we hurtled down in the dilapidated omnibus, with doubtful brakes, supplied by the State. We were distracted, however, and the journey made memorable by giving us our first glimpse of wild Embothrium in flower, in the woods by the roadside; in the Argentine they were only just beginning to show colour. Having a steamer connection to catch, unfortunately we could not wait to explore these woods above Peulla, but had to push on, across the lovely Lake Totos Los Santos to Petrohue, and the volcanic area beyond. Our hotel for the night on the Petrohue river (where incidentally there is wonderful salmon fishing) occupied a somewhat sinister position at the foot of Mont Osorno, a huge white-capped cone which dominates the landscape, and about 100 years ago erupted, pushing the Petrohue river some miles to southward. The area north of the river and around Ensenada is only just recovering and at the stage of growing small trees. The establishment of plant life on volcanic lavae there apparently follows always the same pattern, first the formation of blue algae, followed by mosses, then in turn the Myrtle, the Radal (*Lomatia obliqua*) and the Coigue.

In the neighbourhood of Petrohue, Ensenada and Puerto Mont, *Guevina avellana* and *Eucryphia cordifolia* appeared for the first time, both in considerable numbers but not yet in flower, *Drimys Winteri* occurred to a lesser extent. The Weinmannias, *Sophora tetraptera* and

a species of tree Myrtle were all in blossom—bush Myrtles (? *M. Lechleriana*) crowded the roadsides, their coppery spring foliage rivalling that of *Photinia serrulata* at home. Shrubs in flower included *Fuchsia magellanica*, the tall Pernettya previously described, *Escallonia macrantha*, and *Buddleia globosa*, but we did not see the Buddleias flowering profusely or growing rampantly until the approach to Valdivia, where they revelled on dry sandy banks on the east side of the road and looked very handsome en masse. The admixture of Nothofagus, Lomatia and Macqui was much as on the Argentine side, only stunted.

Between Ensenada and Puerto Mont we ran into pure European gorse country in full bloom, more prolific than we had seen it in England and with the cocoanut scent of English Gorse only not so piercingly sweet, I suppose because of the hot sun. We were to have another reminder of home later on, on a river fishing expedition north of Concepcion, where the sand dunes were covered, for miles, with *Rosa canina* bushes laden with flower of the true fragrance of the English Wild Rose. These examples bear out the view held by the late LIONEL DE ROTHSCHILD, and shared by others, that plants native in their land of origin (as opposed to garden hybrids) are generally sufficiently wild looking to blend without offence with the landscape of other countries. They were certainly pointers to the error of the widely followed notion that species native to a locality do better and grow faster than foreign introductions. Except for the Embothriums, we saw in Chile no native shrubs or flowers equal in general hold and extent to the Gorse and Roses, or to the Eschscholtzias which have become all too freely naturalized in South America and must be the bane of the farmer.

From our first glimpse of them on the Chilian side of the Andean foothills, the Embothriums became increasingly conspicuous as we travelled westward, on the mountain sides above Lake Totos Los Santos, springing up out of most inhospitable volcanic rock beach by the Petrohue river, following us to Osorno and even beyond Valdivia on the journey to Temuco, but diminishing as we went northward. Their finest display was on hillside tilted full into the sun on the south side of Lake Llanquihue, where the road is tranché for some distance into rocky cliff, just above the water line, and packed with Embothrium on both sides. Below the road their brilliant clusters glowed against the deep blue of the lake; from the cliffs above loaded sprays hung over the road forming a dense half-canopy, and in the open we found them crowding the sun-baked slopes and spurting like flames, high up among the distant rocky crags—all at the peak of their flower, at the end of October. It is difficult to describe such a scene, to those who do not know the Embothrium or who know only the scattered single specimens in southern gardens at home. It was as if the waters of an English lake were turned to mediterranean blue, and the slopes above drenched with huge scarlet honeysuckles. In open country, in farm gardens, and on the fringes of the woods, the Embothriums grew into trees up to 40 feet high, in shape and density of flower like pear trees in their prime in alpine meadows. (Fig. 182.)

Most of those we saw appeared to be *Embothrium longifolium*, but it was difficult for an amateur to tell, all the freshly opened young leaves

being broad, like *coccineum*, and only the fact that on almost every bush we examined one or two of the old narrower leaves persisted, seemed to indicate that all might lengthen and darken in time and justify the classification as *longifolium*. From their manner of flowering, some branches at the tips, others forming a dense overall sleeve of blossom, or flowering on all but the tips of the new wood, it looked as if the variations might be due to local conditions, the extent to which individual branches were tilted to the sun and the wood ripened, the degree of expenditure of energy on new growth at the expense of flower, or might these have been a massed collection of natural hybrids between *E. coccineum* and *E. longifolium*? Plants exposed to wind did not flower so freely. We saw *E. lanceolatum* only in Valdivia and Temuco, in the former planted as a street tree.

Our opportunities for plant hunting ended at Ensenada, from whence we had to get back by road and train, by the quickest routes, to Santiago, and so homeward by air via Peru and New York. Among other lasting plant memories of the trip were the parting gift from our Austrian friend in Chile of a little bouquet of *Chloraea leontoglossa* (*grandiflora*), a wild Orchid of the Andes, which if you know where to look for it can be found in flower as early as November, when we left—a treasure finely checked all over with dark green on a green-white ground, fragrant like *Iris stylosa* but even sweeter; the Paulownias in flower in the plaza at Concepcion, trees nearly as big as fully grown Horsechestnuts in this country, and again, with *Prunus Pissardii*, and *Ceanothus Veitchianus* forming what may well be an unique planting scheme of a housing estate, in the new residential area of Santiago; the beauty of *Araucaria Bidwillii* in the municipal garden of Vina del Mar, and one's disappointment at finding it is too tender for a Surrey hillside! Jacarandas in bloom in Peru, and a magnificent specimen, 30 feet high of *Spathodea campanulata* (Bignoniaceae) which we found quite by chance in a convent garden at Chosica, 20 miles from Lima, its dark foliage crowned with orange-scarlet flowers like Lilies, a sight against the blue summer sky. We were told that only two Spathodeas (introductions from West Africa) are known in the Lima district or for miles around—a refreshing change from the more general habit of adoption of a beautiful new plant to the extent that it becomes almost commonplace. In this connection it is not without interest to imagine some of the effects of accelerated travel in a future atomic age—when a journey between the extremities of the hemispheres may take only a matter of hours. With such facilities for becoming acquainted with trees and shrubs in their natural surroundings will our desire to introduce them as foreigners into our landscape and gardens diminish or increase? Whatever the answer, it is to be expected that much propaganda will be disseminated for the preservation of the individual botanical characters of the countries of the world, not least from the point of view of the traveller, who may well become bored at finding over-repetition of his native vegetation when he explores abroad.

NOTES FROM FELLOWS

The Vegetative Reproduction of Metasequoia glyptostroboides

ABOUT two years ago cuttings of this plant were rooted by MR. KEMP of the Royal Botanic Garden, Edinburgh, and this was repeated in the Royal Horticultural Society's Gardens at Wisley. The cuttings were small and were taken from plants in active growth; cuttings of some genera of Conifers root easily in this way.

On December 19, 1949, I noticed that one of my Metasequoias had developed a double leader—the plant, which was about 3 feet high, was growing in a pot in a sheltered position in the open. I cut out the weaker lead, and then decided to try to root some of the side growths of the piece I had cut off. I selected ten suitable growths varying in size from 4½ to 7½ inches and detached these with a heel which I trimmed. I want to emphasize that at this period the plant was absolutely dormant without any leaves. I inserted the cuttings round the edge of a pot of sandy soil, placing the largest cutting in the centre as there was no room for it elsewhere. The pot was then watered and placed in a propagating case in a warm house. There were several other pots of cuttings of other plants in the same case.

After about four weeks it was evident that the buds were swelling and a fortnight later they were showing the green of the young leaves, which soon after were being freely produced on each cutting. These leaves continued to grow, but I did not yet dare to look for root action. Early in March when leaf growth had further increased, I decided to risk it, and turned the soil out of the pot; there was no sign of root action but the cuttings had callused. About the middle of April I turned out the soil again and found that every cutting had rooted. The roots were very delicate, light coloured threads, only about ½ inch to ¾ of an inch long. I potted the cuttings up separately in 3½-inch long toms, discarding one as too weak; I used John Innes pot mixture with a little extra sand, and provided good drainage. The plants suffered no check at all and growth has continued ever since although rather slowly at first. They are now all well established, 15 inches high, including the longest one which was in the centre of the pot, a much less favourable situation for rooting than around the edge. I believe that this is the first time that a cutting of dormant wood of a deciduous Conifer has been known to root; it is not clear to me whether to attribute this to any special factor in Metasequoia, or to the neglect of horticulturists in experimenting in this form of propagation. It is for these reasons that I have given the story of the rooting of these cuttings in greater detail than such a result would ordinarily merit.

Late, I tried a side growth 6 inches long, in full foliage, which I had detached with a heel; this was put into the propagating case and had rooted very strongly within a month.

It therefore appears that *Metasequoia glyptostroboides*, which was at one time one of the rarest of plants, will before long become one of the most common, provided that it can be grown in the open in this country. Its seed germinates freely and its vegetative propagation is very simple.

MAJOR ALBERT PAM, O.B.E., M.A., F.L.S., V.H.M.

Myrtus Lechleriana

MR. G. W. ROBINSON, in his article on "Some Chilean Plants cultivated in Britain" on p. 205 of the JOURNAL, says that "*Myrtus Lechleriana* . . . is much like *M. apiculata* but has smaller flowers and the leaves are less sharply pointed. Though I have seen the plant I have not yet grown it, nor do I remember having seen it in Chile."

In case this should lead gardeners in the milder counties to suppose that *Lechleriana* was not worth growing in addition to the familiar *apiculata* (syn. *M. Luma*), may I record my experience of growing both plants in an exposed garden in West Cornwall?

For garden purposes the two plants are very distinct.

One of the principal characteristics of *M. apiculata* is its habit of making a more or less bare trunk, golden-brown with paler flakes. Sometimes one sees it bushy down to the ground, but it generally carries its leaf-mass aloft like a small tree. *M. Lechleriana*, on the other hand, does not, hitherto at any rate, show this tendency. It makes a tall dense bush of erect habit, furnished down to the earth. With me it sometimes layers itself.

Next, there is the marked difference in flowering season. *Lechleriana* produces its lovely show in May, *apiculata* in August–September. *Lechleriana's* flowers are smaller, but they make up for this by their profusion—though indeed it would be hard to exceed the floweriness of *M. apiculata* at its best. The flowers are quite different in colour and in general effect, being cream-white instead of paper-white and fuzzy in effect like a Spiraea's, flushing into coral-red when petals and stamens fall and leave the five-pointed calyx exposed. The flowers have five petals, not four as is usual in *apiculata*. The scent is different, very pleasant and often widely diffused. After the flowering the shining young shoots colour the whole bush golden-copper so that it then competes in foliage with such shrubs as *Vaccinium ovatum*. The berries turn as black as *apiculata's* do, but are scarlet at first—a detail not noticed in the account in the *Botanical Magazine*.

Surprisingly, this proves to be an exceptionally wind-resistant shrub, even in the abnormally severe conditions to which it is exposed here. MR. G. H. JOHNSTONE, whose exhibit of this plant won an Award of Merit, tells me that "as a clipped hedge I think *M. Lechleriana* comes out about the top." But it is not one for the colder counties. Here it came through the 1947 winter virtually unscathed, when common Gorse was all killed to the ground; but MR. MARCHANT tells me that it is not hardy enough for Dorset, and even in Cornwall its precocious flower-buds may be destroyed by severe Spring frosts.

Fig. 193 shows a bush of *M. Lechleriana* in flower in Cornwall.

W. ARNOLD-FORSTER

Zennor St. Ives, Cornwall.

Hippeastrum × *gracilis*

The history of the large flowering Hippeastrums is well known. They all originated from the species *vittatum*, *reginae*, *Johnsonii*, *crocatum*, *fulgidum*, *pardinum*, etc. It is also known that a Lancashire watchmaker, named JOHNSON, raised the first hybrid in the year 1799, by

crossing *H. vittatum* × *H. reginae*. Other hybridists followed with remarkable crossings. The main purpose was to raise flowers with six petals of the same size and nearly circular-formed flowers. Later the hybridists aimed at the disappearance of the hard green centre and at the production of new colours, especially white. We know the result of hybridizing and selecting.

The flowers of the modern Hippeastrums are large, sometimes 12 inches diameter and therefore only suitable for large rooms and vases. This was a handicap for MR. H. BOEGSCHOTEN, private head gardener of MR. C. J. BUNGE, one of Holland's leading industrialists and merchants, whose love for beautiful flowers and gardens was great. MR. BOEGSCHOTEN was once asked by MR. BUNGE to make a table decoration of Hippeastrums and used for this *H. reticulatum* var. *striatum* of which he was growing a rather large quantity. MR. BUNGE and his guests, especially the ladies, were astonished at the lovely small flowers; only the colour needed to be more attractive, e.g. red. This chance remark stimulated the head gardener to try to raise small flowering Hippeastrums with an outstanding red colour. He bought *H. rutilum*, a species imported from South Brazil. Its flowers are elegantly shaped, carmine-red and the stems strong, but not too thick. MR. BOEGSCHOTEN made the following crosses *H. rutilum* × *H.* hybride and *H.* hybride × *H. rutilum*. The first hybrids from *rutilum* × hybride were small and of red colour. The other cross gave too thick stems to the small flowers. After many years of hybridization and selection a fine red colour was obtained without green in the centre. To perfect the thin stems and the graceful small flowers, the progeny of *H. rutilum* × *H.* hybride have been crossed again with *H. rutilum*. The result of it was surprising and gave the most beautiful formed small flowers with bright red colour and elegant thin stems. This race is very free flowering, so that each bulb carrying three stems each with four to six beautiful flowers is no exception. The height of the thin, but strong stems is 14 to 20 inches and the flowers are very suitable for filling small vases and for table decoration.

G. C. V. MEEUWEN, LTD., purchased the whole stock and showed *H. rutilum* × *H.* hybride × *H. rutilum* at the weekly meetings at Haarlem under the name of *H.* × *gracilis* and received a first class certificate for this beautiful strain.

The results of *H.* hybride × *H. rutilum* are called *H. rutrum*, but have too thick stems and in our opinion they will disappear again.

J. F. CH. DIX

The Cultivation of Jeffersonia diphylla

This species, popularly called "twin-leaf," because each leaf-stalk bears at the top what looks like two leaves, but which are in reality one leaf completely divided into two leaflets, is easily grown, but with me does so much better in pots than in the open that a note seems worth while. I have the plants in both locations. In a recent article by MR. A. EVANS (R.H.S. JOURNAL 75, p. 151) mention is made of them growing in a peat garden in the Royal Botanic Garden, Edinburgh. No doubt good success can be obtained in the open provided the right site is

available, but for many people, as it certainly is with me, this is impossible. The plant is found in nature in rich soil, usually on wooded (deciduous) slopes, and seems to be confined to the U.S.A., mainly east of the Mississippi River. Considering the habitat proper cultivation is readily ascertained. I have measured in the open a plant which had a height of 6½ inches, and a leaf-width of 2¼ inches. In a 4-inch pot (which seems ample for one plant), the height was 11 inches, with a leaf-width of 3 inches. The solitary, erect flowers, appearing in early spring, and shedding their petals very soon, are also larger in pots.

The leaves remain green for a long time, and the plant is striking enough, I think, to deserve frequent cultivation. Not only are the leaves odd and beautiful, but the seed-pod is also unusual, opening when ripe by a lid at the top, the rather bony seeds escaping through the aperture. Seeds are produced by self-fertilization, and they grow readily, although flowers cannot be expected for several years. However, this species is more valuable as a foliage plant.

Freezing should be avoided on account of possible injury to the pots. However, artificial heat should not be given.

EDWIN D. HULL

Gary, Indiana, U.S.A.

Euonymus pendulus

It was about a hundred years ago (1850) that *Euonymus pendulus* was introduced into this country. It was formerly distributed to gardens under the name of *E. fimbriatus*, and is still sometimes found so labelled. But this is a different species and deciduous, while *E. pendulus* is evergreen.

E. pendulus owes its name to NATHANAEL WALLICH, the well-known Superintendent of the Botanic Garden at Calcutta. He was a friend of the great Missionary, DR. WILLIAM CAREY, who was himself deeply interested in Botany. In 1824 DR. CAREY printed at his Mission Press: "*Flora indica*, W. ROXBURGH, ed. W. CAREY, D.D., F.L.S., to which are added descriptions of plants more recently discovered by NATHANAEL WALLICH." I looked up the faded old volume in the Lindley Library, and read at the bottom of the title page "All thy works praise thee, O Lord."

The great attraction of *E. pendulus* is the rich shining red of the young leaves in Spring, rather similar to that of *Pieris Forrestii*, but the red lasts considerably longer. It should be better known. MR. MARCHANT has told me of fine specimens 25 feet high; and I have recently seen the tree at Tregrehan which the late Mr. Bean described in 1916 as "a small tree of shapely pyramidal form 20 feet high, its trunk 4 feet in circumference." It has been very beautiful this Spring at Caerhays and Tregothnan.

J. W. HUNKIN
Bishop of Truro

Iris susiana

Iris susiana has now been growing in my garden at Malton for three years and flowered this year for the first time. It appears to be quite safely established at the top of a retaining wall, backed by a Lavender

hedge which absorbs surplus moisture. It is growing in a shallow bed of loam with limestone brash about 12 inches below the surface of the soil, facing due south.

Under the same conditions I am growing all the Regelia group, and a large variety of Regelio-cyclus hybrids which flower as freely as any border Iris. Neither they nor *I. susiana* are given any protection of any sort, and they do so well that I am experimenting this year with *I. Lortetii*, *I. Bismarckiana* and *I. atrofusca*.

Malton, Yorkshire. C. H. GREY

HORTICULTURE IN SINGAPORE

R. E. Holttum

(DIRECTOR, BOTANIC GARDENS, SINGAPORE, 1925–1949)

THE visitor to Singapore cannot fail to be impressed by the bright display of flowers in the Chinese nurseries on the outskirts of the city. Judged by standards of drier or more seasonal climates, our flowers, apart from Orchids, may not be of outstanding quality, but they are the same throughout the year. They represent a considerable triumph over climatic difficulties, as any newcomer will realize who tries to grow them by methods which are satisfactory elsewhere. The fact is that local Chinese gardeners have adapted their methods in a remarkable way to our climate, and have adapted them also to a considerable range of different plants. The most interesting and remarkable development of this kind is the variety of new Orchids which have been produced in recent years. A very fine display of these Orchids, including nearly one hundred different species and hybrids, was shown at the recent Singapore Flower Show.

One might think that the perpetual summer of Singapore would provide a gardener's paradise, but this is far from the case. Our days are always short, so that those summer-flowering annuals of northern latitudes which need long days will not flower. Autumn plants, such as Michaelmas Daisies and Dahlias, flower at all times of the year, but precociously, and the plants need special care to grow them to a good size; and our minimum night temperature (never below 70 degrees) is too high for them. Flowering shrubs and trees of the drier regions of the tropics and subtropics, when they can adapt themselves to our continuously wet climate, often grow continuously without flowering, or flower rarely. The wet equatorial regions have produced few good ornamental garden plants apart from Orchids. Add to these troubles a heavy clay soil, the difficult qualities of which are exaggerated by our constant high temperature and humidity, and it will be seen that the gardener in Singapore has many difficulties to contend with.

The kinds of flowering plants that will tolerate our climate have been gradually discovered by many trials. Nearly all of them are imported, and nearly all flower less well here than in their proper climates. Among the most successful are Cannas, which will flower finely if they are generously treated. But Hydrangeas, which flower so freely and

beautifully with little attention in a suitable climate, can only be brought to perfection with constant care and intensive manuring in Singapore. Gladioli, which can be made to flower at any time of year, though very beautiful, are smaller and shorter-lived than in a cooler and drier climate. Dahlias and some other crimson or purple flowers lack the richness of colour which they will develop in cooler climates (as at the hill stations of Malaya).

But with all these and many other disadvantages (such as the prevalence of some insect pests) we have one advantage, and that is our perpetual summer, which gives us flowers (the same flowers) right through the year, with only a slight reduction in the wetter more overcast months of October to January, and something of an improvement as a result of the drier weather that usually comes in January or February.

Two styles of gardening have met in Singapore, and have mutually influenced each other: the British idea of a garden of lawns with flower beds, flowering shrubs and trees, and the Chinese idea of a garden of potted plants. By the use of plenty of compost, combined (in the case of our clay soils) with deep digging, a limited number of bedding plants and flowering shrubs can be maintained satisfactorily. But there are some other plants, particularly "annuals" (a term which loses its significance here) which need very well aerated soil for their best development, and these are grown by Chinese gardeners as pot plants. And other plants also, which grow well enough in the open ground, are also often grown in pots because they can thus be made to produce more flowers, by judicious restriction of watering.

The Chinese gardeners have developed a special method of preparing their potting soil, which seems to be peculiar to Malaya. They take large pieces of clay and pile them on top of some old logs of wood and other rubbish, in such a way that the wood will burn slowly over several days and thoroughly bake the clay. The resulting material will absorb water without becoming sticky or sodden, and if used as a potting soil will remain well aerated though subject to torrential rain. The Chinese gardeners usually mix a proportion of organic matter with the burnt earth, but for plants which are very sensitive to wet conditions the burnt earth may be used alone, the dust being removed from it by sieving.

The use of a burnt earth mixture ensures a well-aerated rooting medium, but it does not provide much plant food. The latter is given a little at a time in liquid form, every few days. Organic manures of various kinds are used, and are rotted in water, the diluted liquid being applied (the resultant odours are of no consequence!). This intensive manuring ensures vigorous growth, and without such manuring it is hardly possible to grow good plants of the common annuals like Zinnias, Asters and African Marigolds, nor of Hydrangeas and Chrysanthemums.

The Chinese gardeners have applied their intensive manuring to other plants also, notably to Orchids, with astonishing results. Hydrangeas and Chrysanthemums are obviously not at home here, and even with all our skill and care they are second best; but our local Orchids are well adapted to the climate, and, when correctly sited and intensively manured, a few of them produce astonishing results in growth and flowering.

For many years the only free-flowering Orchid in Singapore was Vanda 'Miss Joaquim.' This hybrid was named in 1893, and has long been the most abundantly cultivated Orchid here. It is easily propagated, easy to cultivate, and needs full sun. The more strongly it grows, the better it flowers, and a well-managed bed of plants will be continuously covered with flowers. This hybrid showed what was possible in our uniform climate. If a plant is adapted to grow and flower continuously, our climate gives it maximum scope, when combined with methods of intensive manuring. In recent years a considerable number of new hybrid Orchids have been raised at the Botanic Gardens, Singapore, with the object of producing a greater variety of really free-flowering plants. Several hybrids between species of the genera Vanda, Arachnis (scorpion Orchids) and Renanthera (red scorpion) have now been proved to be really free flowering (Fig. 192). The most successful is Arachnis 'Maggie Oei,' which produces sprays of flowers two to three feet long, quite continuously. The flowers are very like one of the local wild scorpion Orchids, but none of the latter are perpetual flowering, and so are not useful as garden plants.

The hybrids of Arachnis and Vanda are particularly useful because they are so easy to propagate and to grow in any garden which is exposed to full sunlight. Attention has also been paid to some other Orchids of different habit, which must be grown in pots or baskets and are much less easy to propagate. Among the best of such Orchids for local cultivation are hybrids of a group of species of Dendrobium (section Ceratobium) native of the New Guinea region. These have long sprays of graceful and rather fragile-looking flowers which are yet very long-lasting. The hybrids of these Orchids prove in many cases more free flowering than their parents, and a number of them have now been produced. They need careful management, but Chinese and other local growers have managed to apply to them also the methods of intensive manuring, and have produced plants of remarkable size. Dendrobiums are not continuous in growth like Vandas, but make a succession of new shoots from the base of the plant. The best Dendrobiums flower on each new shoot as soon as it is fully developed, and also on the same shoot later. The best also do not have too long a rest between one new growth and the next. In our climate growth is possible at all times, and the plants that rest least are the most efficient.

Cattleyas, which are generally acknowledged to be the finest of all Orchids (as certainly they are the largest) are somewhat less well suited to Singapore than the New Guinea Dendrobiums, as some of them will not tolerate our lack of dry weather. Most Cattleyas can, however, be grown if suitably potted and protected from rain in our wetter weather, and a few are very successful. Again, those that need least rest, and will make new growth as soon as possible after the last shoot is mature, are the best. Some of these will flower regularly twice a year, or even more often. The methods of intensive manuring may be applied to Cattleyas as well as to Dendrobiums.

Because of their unusual form and long-lasting characters, Orchids are especially popular as cut flowers, and if exploited to the full they could be produced in far greater variety than any other class of flower

in Singapore. But there is no reason why other classes of flowers should not also be bred and selected in Singapore with the object of producing perpetual-flowering varieties which are suited to our climate. The skill of the Chinese gardeners has shown what can be done to exploit our climate to the full; what is needed is a more varied selection of plants to which intensive methods can be applied.

The methods of the Chinese gardeners also would repay scientific investigation. A plan is now in hand for such an investigation of Malayan Chinese fish-pond methods, which produce a far greater yield of fish than any method in any other part of the world. I believe a similar investigation of horticultural methods would be of great interest, and might indicate further possible developments. Chinese vegetable growers in Singapore can produce a crop of green vegetables in a month, and then prepare the ground for another crop; ten crops in a year are possible. I do not think that hydroponic experts could produce much greater yields in the same time and area, though they could doubtless effect an economy of human labour. Again, modern methods of plant breeding could probably give the Chinese vegetable grower more varied and better subjects for his skill. It is time we made a better use of the unique climatic conditions of Singapore.

BOOK NOTES

"Trees and Shrubs hardy in the British Isles." By W. J. Bean, C.V.O., I.S.O., V.M.H., Ed. VII, Vol. 1, A-E. pp. 703. 8vo. (John Murray.) 42s.

When in 1914 the first edition of this fine work appeared in 2 volumes it was eagerly welcomed by all who valued trees and shrubs for the outdoor gardens. It became their indispensable companion and a sure and certain guide as to the use and possibilities of many beautiful things. In 1933 a third volume was added containing descriptions of new acquisitions and notes on their behaviour and including plants better accommodated in the milder parts of the country which had been omitted from the earlier volumes.

This new edition will be even more welcome for it brings the contents of all three volumes together in their alphabetical position making it easier to consult, adds a few new plants as well as notes to those already included, corrects a few—fortunately very few—names, for Mr. Bean was averse from altering old names wherever it was possible to retain them, and provides a full index to all plants named in the work. There are also a number of additional plates of outstanding plants.

The remaining two volumes are due to appear towards the end of 1950.

"The Art of Botanical Illustration." By Wilfrid Blunt, with the assistance of W. T. Stearn. Pp. xxxi, 304. 47 col. plates, 32 monotone plates, 75 text figs. (The New Naturalist, 14, Collins.) 21s.

This was a much needed book. Mr. Blunt has blazed a trail through the great forest of botanical illustration, the remoter areas of which lie almost beyond the ken of the ordinary student. Of course much has been written, in one way or another, about botanical art, as the bibliography at the end of this book shows. But so far no general guide book had appeared which dealt with the subject consecutively and as a whole. The great herbals and folios of other centuries lie mostly in our University, Museum, or specialist Libraries, or in great private Libraries like that of H.M. the King at Windsor. And therefore it is rather difficult, except for the fortunate few whose working days are spent in such Libraries, to become familiar with them, or even to find out exactly what exists.

Mr. Blunt brings to his task the knowledge of a specialist, the judgment that comes of wide culture, and the seeing eye of one who is an artist himself. In botanical matters he has had the highly expert assistance of Mr. W. T. Stearn, and also in bibliography.

The book is therefore an authoritative guide to botanical art in all its aspects. It deals of course practically entirely with European art and no 300 pages could contain more condensed or useful information regarding all the chief personalities in this field and even many of the less-known. Moreover, the bare facts are enlivened by Mr. Blunt's critical comments on the artists' work in itself. The nineteenth and twentieth centuries seem somewhat telescoped, but could hardly receive more detailed treatment in a book of limited length. The half-dozen pages devoted to oriental art will serve at least to remind readers of the existence of this great branch of floral illustration. And the references to American artists of the nineteenth and twentieth centuries are particularly welcome, as giving information which is in the ordinary way difficult to come by. An interesting Appendix is the reprint of eight articles on Botanical Drawing by W. H. Fitch, published in the *Gardeners' Chronicle* in 1869.

The book is amply illustrated, the figures excellent and the monotones for the most part satisfactory. But the colour plates are disappointing. In colour plates one knows one can only get a kind of translation—something that is not quite the real thing—and one allows for this beforehand. Great variation in the truthfulness of reproduction is possible according to the technique adopted in printing; but quite a number of these plates simply cannot stand comparison with their originals. No doubt considerations of price prevented a higher level and one appreciates all the same the wide range of the illustrations, and the care shown in their choice.

With the above reservation the book can be whole-heartedly recommended to all those lovers of flowers, pictures and books to whom Lord Aberconway referred in a similar connection not long ago.

F. CARDEW

"Lilies of the World." By H. Drysdale Woodcock and William T. Stearn. 431 pp. Illus. (Country Life Ltd.) 35*s*.

The authors originally intended this book to be a third edition of *Lilies: their culture and management* published in 1935 but it was found that so much had to be omitted and a great deal added, thus essentially producing a new book, that they decided to publish it under the above title. The book under review is indeed a much larger work than the Woodcock and Coutts *Lilies*, the pages being royal octavo and almost double in number.

The collecting of 136 photographs and line drawings must have entailed a vast amount of research. To the many who are familiar with the lovely group of Giant Lilies at Townhill Park (p. 355) the frontispiece should be of special interest, for it shows that species growing in the wild. Another photograph taken in Assam shows *L. Wallichianum* and this should stimulate us to make renewed efforts with this somewhat temperamental Lily.

Several species such as *L. Vollmeri*, *L. ponticum* and *L. Fargesii* are figured for the first time, other little known Lilies such as *L. amoenum*, *sempervivoideum*, *papilliferum* and *Stewartianum* are also portrayed.

Fig. 32, a beautiful drawing, is of added interest in that it was executed by the French artist Claude Aubriet (circa 1700). It was after him that Aubrieta was named. A specially drawn map of China and adjacent regions will prove of interest to those who like to know the country of origin of the many Lilies which have been collected in those parts.

Part I which consists of ten chapters, beginning with an introduction, deals with form and function, climate, position and soils, easy and difficult Lilies, their place in the garden and general cultivation. The growing of Lilies in pots in the greenhouse is well described, also hybridisation and propagation. Finally, pests and diseases. Much of the foregoing covers familiar ground as might well be expected, but all will be useful to the beginner.

Under propagation one misses a few helpful photographs from the old book, but epigeal and hypogeal germination are described and illustrated.

Chromosomes and their behaviour are mentioned somewhat sketchily, the diploid form of *L. tigrinum* is also mentioned, a Lily which may be useful to the hybridisers who wish for still more orange crosses, but one which for garden purposes is definitely inferior.

Chapter 10 deals with diseases and pests. With the numerous insecticides at our disposal, the latter are fairly easily dealt with, but it is surprising that the authors make no mention of H.E.T.P. (Hexethyl-tetraphosphate). More than one preventive is recommended for Botrytis but in the end we are advised not to grow *L. candidum*. If this is good advice, why not include *L. chaldeconicum* and × *testaceum*? Further, some noteworthy plant pathologists tell us that the disease which disfigures the Lilies of this group is not always Botrytis, so where are we? More stress should have been laid on the protection of these susceptible Lilies from the combined effect of sun, rain and wind, a practice which gives better results than any of the advertised sprays and dusts.

The term Mosaic and Virus are used somewhat loosely which might convey the impression that they are synonymous. In the treatment of Fusarium basal rot no mention is made of the American Arasan, nor of the British product Aratan (Bayer) both of which contain mercurial salts.

Would that Lilies were as amenable to treatment as are the higher animals!

The first chapter of Part II deals with the Classification of Lilium and allied genera, the former being still divided into Leucolirion, Archelirion, Pseudolirion and Martagon; the other genera are Nomocharis, Notholirion, Korolkowia and Cardiocrinum. Some of us will find it difficult to relinquish the old name for the Giant Lily but it is impossible to find outside this group of four species included in Cardiocrinum any true Lily with such broad basal leaves (actually prolongations of the older scales), or which makes no attempt by immature bulbs to throw up a stem of any sort until it is ready to bloom and in which finally the main bulb dies after flowering (monocarpism). Finally the segments of the seed capsule are markedly toothed and unlike any Lily fruit.

It may well be said that the taxonomists have here a good case which gardeners can hardly argue over, but it will be some time before we all speak of *Cardiocrinum giganteum*.

Less easy to accept are certain other changes made in deference to the International Rules of Botanical Nomenclature, thus: the *L. elegans-Thunbergianum* group becomes *L. maculatum*; the umbellatums are put under *L. hollandicum* and worst of all *L.* × *princeps* becomes *L.* × *imperiale* and *L. ochraceum* must be called *L. primulinum*. It is comforting, however, to find an erratum slip on p. 5 or 285 to the effect that Baker's name for the sulphur Lily has two months' priority over *L. myriophyllum* of Franchet so we now revert to the much pleasanter and sensible name of *L. sulphureum*.

The old confusion surrounding the group of Lilies under the name of *L. Brownii* becomes worse confounded, at any rate, to the mere gardener. Naturally the old discarded names no longer occur in the body of the book, but the very complete index provides an easy method of finding them. For instance, if one looks up *L. elegans* and *L. umbellatum* one finds the page numbers 263 and 288 which give the details of *L. maculatum* and *hollandicum* respectively. Chapter 14 in the course of 230 pages gives a very complete list and description together with the history, bibliography and synonyms of practically every known species, variant and hybrid Lilium.

Chapter 15 deals with the Cardiocrinums, Notholirions and Korolkowia, but Nomocharis is included in a separate appendix.

Further appendices are concerned with Latin diagnoses to safeguard certain new names, sub-division of the Genus Lilium into 15 groups, a very complete bibliography of old Lily literature, advice is also given on storage and packing. The last appendix, a glossary of technical terms would appear almost redundant. On the other hand, no mention is made of A. Simmonds' list of Hybrids (LY.B. 1939, pp. 40–51) nor of F. Comber's proposed Classification of Lilium.

As already indicated the index is very complete and difficult to fault.

This authoritative work is already in the hands of many Lily growers and rightly so. It contains a vast store of valuable information in a comparatively small book. If Woodcock and Coutts' 1935 book was called the Lily grower's Bible, what name shall we give to its successor?

MAURICE AMSLER

"Fun with Flowers." By Julia Clements. 144 pp. 115 Illus. (My Garden Publications.) 21*s*.

The authoress of this book has evidently been born and blessed with good taste, plenty of ideas and mental energy. Anyone who takes pains and interest in setting up flower arrangements would find this volume a great help and an inspiration as it thoroughly treats of the materials that may be used and also gives instructions and hints of what to avoid. The photographic illustrations are very good and so varied that anybody's particular taste can be stimulated and helped by them. A few of the arrangements seem to be a little crowded and the instructive pages 54 and 55 showing the different stages in the making, rather indicate that stopping at No. 2 or No. 3 would have completed a better result. Figure on page 104 shows this desirable restraint. It is to be regretted that some of these arrangements show some of the flowers which have naturally rigid stalks and habits so set that they are hanging down almost over the edge of the container. Irises, Gladioli and Narcissi are surely better put up in their more natural position, letting foliage or suitable flowers form the necessary horizontal lines. The note under illustration No. 96 mentions "A Japonica" (*i.e.* A Japanese)—there is no such thing as "A Japanese"—the particular plant used here seems to have been Mahonia, sometimes called Berberis.

It is to be hoped that this book will encourage many readers to improve their taste in flower arrangement and it will certainly give them an enjoyable insight into the diverse forms and characters of the materials used for the purpose—and they will get "FUN" out of it too.

F. GALSWORTHY

"The Cactus Grower's Guide." By Vera Higgins. New Gardening Series. General Editor: Roy Hay. Sm. 8vo. 120 pp. Frontispiece and 10 line drawings. (Latimer House). 7*s*. 6*d*.

Mrs. Higgins has already done much to help newcomers to the study of succulents, and this, her fourth book on the subject, maintains the high standard of the others. It is attractively produced, easy to read, and its authenticity is assured by many years of practical cultivation and study of the plants. All aspects of succulent collecting are touched upon, though I feel the beginner may sometimes be left in need of a fuller explanation, or sketch to elucidate some detail of structure or of cultivation technique.

Two chapters on "other succulents" make their appearance after the sections on Cacti. I do not like this rather disparaging treatment of what form, after all, often the greater part of the beginner's "Cactus" collection. It would have been better to limit the book to the subject of its title, or to take the bolder course and end the popular misconception of "Cacti and succulents" by treating all families of succulents (Cactaceae included) on an equal basis.

The cultivation chapters are admirable but could be more explicit in details—insecticides, for example—and surely sand is now outclassed by Vermiculite as a rooting medium?

There is an index of Latin names: a bibliography and short glossary would have been additional aids to beginners.

Mrs. Higgins is a botanical artist of the front rank, as well as one of our leading authorities on succulents—Crassulaceae in particular. It is to be hoped that her next undertaking will be for the specialist and more advanced grower: would a much-needed revision of the Crassula group be too much to request? GORDON D. ROWLEY

"I. V. Michurin: Selected Works." 496 pp. 200 Illus. (Foreign Languages Publishing House, Moscow, 1949, Distributed by Collet's, 67 Gt. Russell Street, London, W.C. 1.) 15*s*.

Those who have read Academician Lysenko's *Soviet Biology* or the verbatim *Report of the Moscow Conference on Genetics* (1948) will be familiar with the name of Michurin, as throughout these books the so-called progressive Soviet Michurian genetics is continually contrasted with reactionary Mendel-Morganism to the great discredit of Mendelian genetics. But although Lysenko himself and most of the contributors to the 1948 Moscow Conference claim to be ardent Michurinists nowhere in the above books are we clearly told just what Michurian genetics is. It is therefore of interest to read this book of Michurin's *Selected Works*, since his theories, which now appear to be the basis of plant breeding in Russia, have been so much quoted and praised by the Michurinists in recent years.

The book is profusely illustrated. The first illustration on page 4, the twenty-first on page 87, and also the last, number 200 on page 468, are all entitled "New Texas Raspberries." These attractive illustrations bring to mind inquiries I have received in recent years about new raspberries raised and grown in Russia with fruits over two inches long. On page 423, however, we are told that the New Texas Raspberry was obtained by selection from seedlings of the loganberry. Hence the impressive fruits illustrated are not magnificent new raspberries but ordinary loganberries which have been known for nearly 70 years.

Michurin discusses at great length the involved question of the juvenile period of growth of fruit trees, grafting effects, and the influence of the stock upon the scion; he also gives an account of the origin of the so-called vegetative Apple-Pear hybrid 'Reinette Bergamotte.' The Lysenko School have made much of this alleged hybrid and claim it to be a classic example of so-called vegetative hybridization. Michurin tells us that he obtained 'Reinette Bergamotte' from grafting an apple on to a Pear stock and says the growth of the Pear stock "became quite sickly in the spring of the second year after grafting" so to save the apple graft he layered and rooted it. In 1898 when five years old, the young layered tree bore its first fruits and Michurin says there was "great deviation in shape and size of the fruits beginning with the 1898 harvest and up to 1906." The first yield in 1898 had the appearance and shape of pears. Finally Michurin says "The seeds of the first fruits were round and large but did not germinate. In the following years the fruits changed somewhat, approximating the usual shape of apples." There is a drawing of the fruit of 'Reinette Bergamotte'; it is not very pear-like. I have seen apples very much more pear-shaped which have had nothing to do with grafting Apples on to Pears, and I cannot accept this as an example of vegetative hybridisation nor can I find anything in the book which proves that there is such a thing as vegetative hybridization.

Michurin's discussions of his so-called "Mentors," and of the effects of environment are prolonged, and seem to be largely, if not entirely, bound up with the juvenile period of growth, especially of fruit trees. In these accounts there is much which those

acquainted with the growing, breeding, and grafting of plants and trees will not be able to agree.

Discussion on the inheritance of acquired characters is mainly philosophical and, as in the case of so-called vegetative hybridization, there is nothing in the book which proves that acquired characters are inherited.

There are, however, some accounts in this book which most biologists, at least most of those outside Russia, can accept. With such crops as Rye, Wheat, Oats, Peas, Millet, etc., Michurin says, "I consider the phenomenon of segregation of the parent types to be quite possible and that the Mendelian laws are applicable here in many details," and although he criticizes the application of Mendel's laws in relation to the breeding of fruit trees, he nevertheless says, "I by no means deny the merits of the Mendelian law. On the contrary I merely insist on the need to introduce amendment and addenda into it, for it is evident to everybody that his calculations are not applicable to cultivated varieties of fruiters [*sic*], for when crossing separate varieties of them, the structure of the hybrids is not due to the hereditary transmission of the direct and immediate progenitors, but in most cases of those belonging to the ancestors of the parent plants, unknown to the originator." This is an addendum which Mendel himself would certainly not have felt inclined to disagree.

Michurin further states, "When investigating the application of Mendel's law to the hybridization of cultivated varieties of fruit plants, I recommend that, as a beginning, the investigation be confined to observing the hereditary transmission of one or two characters, just as Mendel himself did in his work with Peas." Michurin then lists suitable characters for this purpose and then states, "Here there is great scope for applying the whole Mendelian calculus to the entire complex of characters of each hybrid." Actually much has been done in this and other countries, in the genetical analysis of fruits, just as Michurin has outlined.

Michurin says "it is possible to improve our hardy local varieties by crossing them with foreign ones that had been raised in a warmer climate and which yield fruit of better quality as compared with our own. It is indeed refreshing, in a post-war Russian publication to find a tribute paid to the qualities of varieties of fruits raised in other lands.

After reading this book and fully allowing for Michurin's criticisms of early Mendelism one is bound to ask whether Lysenko and his colleagues have been really honest with Michurin. They claim to be disciples of Michurin but their recent violent and wholesale condemnation of Mendelism and Morganism does not seem entirely to fit with Michurin's teaching.

M. B. CRANE

"Soviet Genetics and World Science." By Julian Huxley. Cr. 8vo. (Chatto and Windus.) 8*s*. 6*d*.

This interesting book deals primarily with a discussion of the "Lysenko" controversy. Dr. Huxley describes the Lysenko theories and results as far as they can be ascertained, and after contrasting them with the presently accepted basis of neo-Mendelism and genetics, he is able to show most convincingly that the most disputed theory of the inheritance of acquired characters does not necessarily or even probably result from Lysenko's experiments and that there is little or nothing in them to alter the basis of genetics as generally understood in Western Europe and America.

But very much more important, Dr. Huxley states as emphatically as he can the absolute necessity for freedom of speech and discussion in Scientific matters and shows how this has been lost in modern Russia, how the opponents of the theories of Michurin and Lysenko have been liquidated and disgraced and how a supposed interest on party and ideological grounds has led the Communist Party and the Russian Academy of Sciences to lend their authority to what amounts to the suppression of discussion in an entire branch of science. It is a return to mediaevalism unparalleled, except in some of the excesses of Nazi Germany, for centuries past.

This is an important book and should be widely read. It is as clearly and simply stated as matters of this complexity can be.

F. M. SYNGE

"Fruit for Small Gardens." By D. S. Crowther. 152 pp Illus. (W. H. & L. Collingridge, Ltd.) 6*s*. net.

This handy book on fruit sets out to show how the owner of a small garden can grow with success not only soft fruits but also fruits such as Apples and Pears, which at one time it was considered only possible to grow satisfactorily in variety under conditions appertaining to large establishments.

After a useful glossary the book starts off with a chapter referring to the research work on root-stocks; the possibilities of growing certain tree fruits in a small garden

are examined and the best means to adopt for so doing are discussed. Then there is a chapter on when and how to plant; factors influencing a possible choice of site are mentioned. Different systems of pruning are described under "the fundamentals of pruning and feeding," followed by separate chapters on "dwarf bushes, pyramids and pillars," "bush trees" and "forms needing a horizontal support."

Cultural details relating to specific fruits are dealt with in the latter half of the book. The Apple and the Pear are given a chapter each and another is devoted to the stone fruits. The soft fruits are dealt with altogether in one—rather short—chapter. We should like to have seen this expanded somewhat and considerably more emphasis placed on the very distinct type of pruning necessary for Black and Red Currants—a stumbling block to so many novices. The book concludes with very complete notes—for a book of this sort—on the enemies of fruit and their control; appended are useful spraying programmes, in which the materials are shown in small quantities handy for the small grower.

There are some excellent line drawings in explanation of the text. The photographic illustrations are numerous; they nearly all have a story to tell and add much to the interest. In a few cases the captions might be slightly amplified—or amended—with advantage; for instance that relating to big bud mite is not borne out by the illustration.

Many growers will fail to agree with all the statements in this book—*tot homines, tot sententiæ*—but Miss Crowther has evidently kept her eyes and ears open, for there are many useful titbits of information which readers, particularly those for whom the book is primarily written, should find of value. The area of the garden envisaged by the title of the book is sometimes lost sight of in the author's enthusiasm for the subject.

The subject is of course a wide one, somewhat difficult to compress in the pages available, and the book could readily have been extended into one twice the size; it does, however, put before the owner of a small garden, in succinct form, various methods to be adopted in the culture of many different kinds of fruit.

HOWARD H. CRANE

"Fungi and Plant Disease." By R. B. Mundkur. (Macmillan & Co.) 16*s*. net.

In the preface to this book the author tells us that despite the considerable advances made in agricultural education in India during the last forty-five years, there is still a great lack of textbooks in almost every branch of this great subject and students have had to rely on European and American publications which obviously have not been ideal for the Indian student. Dr. Mundkur has therefore written this book on Plant Disease in an endeavour to fill a real need in the education of agricultural students in his country. We must say at the outset that in our opinion he has succeeded in his endeavour.

The book contains twelve chapters, the first five of which deal with morphology and reproduction of fungi, their habits and life processes, the kind of symptoms resulting from diseases caused by them in plants, the methods employed in studying such diseases, and the classification of the various fungi concerned. The next five chapters take each group of fungi in turn and contain descriptions and control methods for the diseases they cause; numbering in all nearly fifty diseases important in Indian agriculture and horticulture. Chapter 10 is on Virus diseases and Chapter 11 discusses plant disease control in general as well as describing the use and preparation of various sprays, seed disinfectants etc. There are references to further literature at the end of each chapter and there is a good general index. We must make special mention of the excellent illustrations of which there are no less than 130 in this book of 250 pages.

Only a few of the diseases given will be known to most plant pathologists in this country, but none the less they will approve the way in which the author has presented the subject as a whole. Those students in India who wish to gain knowledge about plant diseases are fortunate in having the aid of this textbook and we congratulate the author on having produced it. The fact that books of this kind are nowadays being written in India promises well for the future development of her agricultural economy in general.

D. E. GREEN

"A Fuchsia Survey." By W. P. Wood. 170 pp. Illus. (Williams & Norgate, Ltd.) 9*s*. 6*d*.

The book has filled a long-needed gap, as it is the only book which has ever been published dealing with the history of Fuchsias—description of species and varieties together with their cultivation—since Porcher published the fourth edition of his *La Fuchsia, son Histoire et sa Culture* in 1874.

In the book under review the history of the Fuchsia commences 1703, and continues onwards, leading up to the introduction of Fuchsia species into Europe in *circa* 1786, which was ultimately followed by the first recorded hybridizing in 1825. Accounts are given of hybridizers and their raisings up to the present day, including such raisers as Mr. Raffil of Kew, and the Victor Reiters of America.

Gardeners in America will be particularly interested in the chapter on Fuchsias in the U.S.A.—from their first recorded cultivation in 1870 up to the present day. A list of some of the hybrids raised in America is also given.

The author is very modest in describing himself as having had a certain amount of success in raising new varieties. He has produced, and is producing, a completely new race of hardy Fuchsias. As a grower, exhibitor, and authority of great repute, his printed knowledge and experience is worthy of reading.

The author includes in his book a list of Fuchsia species and varieties both hardy and otherwise. Soils, fertilizers and propagation are dealt with, and the cultivation of Fuchsias in the open and indoors and in particular without heat indoors is carefully considered. The labour-saving possibilities of the Fuchsia are touched on.

A welcome chapter is given to training plants into standards, pyramids, and conicals, so beloved of the nineteenth-century growers. Photographs of Mill Hill School Fuchsias make one realize that some Fuchsia varieties can be grown into small trees indoors in England. Excellent suggestions are given for "situations" for Fuchsias. Insect pests, and their control, are given prominence.

A chapter is devoted to the art of hybridizing, and the author recommends the collection, in South America, of species not in cultivation in England, for a new approach to producing varieties with larger flowers, and even finer pure colours.

A collection of coloured plates would have added to the book's great interest, but unfortunately the present "set up" in this country has not made this possible.

The book should be on the plant reference shelf of every gardener.

RALPH NEWMAN

"Flowers that bloom in Summer." By A. W. Hatfield. 40 pp. Illus. (Castle Press.) 2*s*. 6*d*.

This is a very big subject and it is impossible to deal adequately with it in a short essay of 40 pages. The author in this case has presumably chosen just a few of her own favourites. The illustrations are printed from line blocks to which a second colour in a rather fierce magenta or mauve has been added, which, in a few cases, has been varied with yellow or green; however, it is not very suitable for the range of flowers covered and it is a pity to see a scarlet oriental poppy flaunting a magenta flower.

"The Gardener's Travel Book." Edited for the Massachusetts Horticultural Society by E. I. Farrington. 2nd ed. 278 pp. Illus. (Oxford University Press, New York; Geoffrey Cumberlege, London.) $4.00 or 24*s*.

This book is dedicated "to those good Americans whose love of gardens is equaled only by their love of travel" and aims to increase their enjoyment of both by listing under each state of the United States and each province of Canada the more important gardens, landscaped public grounds, nurseries, flower shows, specimen trees famous for their size, beauty or associations, and other places of horticultural interest which can be visited. There are brief descriptive notes about each. To any garden lover planning a visit to the United States and Canada such a work should be most helpful. The section on Mexico is by no means so detailed. The first edition was published in 1938; this 1949 edition contains material not in the earlier one.

"Suppression of Weeds by Fertilisers and Chemicals." By H. C. Long and Winifred E. Brenchley. Demy 8vo. 96 pp. Illus. (Crosby Lockwood.) 7*s*. 6*d*.

This is the third edition of a work first published in 1934. It has been revised and enlarged since there have been many recent striking developments in this field. This book is intended more for the farmer than the gardener and the majority of the crop references are to farmers' crops, but the market gardener and the horticulturist should also find it helpful, as a summary of methods of control and references to original papers are given at the end of each chapter. A valuable article on weed control in Cereals by Chemical Methods by Prof. G. E. Blackman, from the *Journal of the Ministry of Agriculture*, is reprinted as an Appendix and there is a useful glossary of the Common and the Latin names of weeds quoted.

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JUNE 13, 1950

SCIENTIFIC COMMITTEE—Mr. E. A. Bowles, M.A., F.L.S., F.R.E.S., V.M.H., in the Chair, and nine other members present.

Arillode of Scilla Thunbergiana, etc.—Mr. W. T. Stearn reported that he had found ants carrying the seeds of this Scilla for a considerable distance and devouring the arillode which appeared to be of a sugary nature. As Col. Stern remarked, the same thing occurs with the seeds of Galanthus.

Rogue Wallflower.—Prof. Barnes showed a specimen of this peculiar form in which only sepals and carpels are developed (*see* Journal R.H.S. **40**, 85). A peculiarity not before noted was that in some instances in Prof. Barnes' plants an axillary shoot had grown in the axil of a sepal.

Allium atropurpureum.—Sir Cedric Morris, of Hadleigh, Suffolk, sent flowers of this tall species of Allium, a native of Hungary eastwards, with dense, almost globular heads of dark purple flowers. It belongs to the group of Alliums in which more than two ovules are seen in sectioning a cell of the ovary.

Lonicera glaucescens.—Sir Cedric Morris also sent flowering shoots of *Lonicera glaucescens*, a native of the middle regions of North America, with large glaucous rounded leaves connate beneath the yellow flowered inflorescence.

Silver Firs coning.—Commander Gilliland drew attention to the coning of the following species of Abies in his garden at Londonderry this year: *A. cephalonica*, planted 1932; *A. firma*; *A. grandis*, planted 1919; *A. koreana*, planted 1934, female cones regularly produced, male for the first time; *A. numidica*, planted 1932; *A. Veitchii* (var. *olivacea?*), planted 1941.

FLORAL COMMITTEE A—Mr. G. W. Leak, V.M.H., in the Chair, and thirteen other members present.

Awards Recommended

Gold Medal

To Messrs. Robert Bolton & Son, Birdbrook, for an exhibit of Sweet Peas.

Silver-gilt Banksian Medal

To Messrs. Allwood Bros., Ltd., Haywards Heath, for an exhibit of Garden Pinks and *Dianthus Allwoodii*.
To Lindabruce Nurseries, Lancing, for an exhibit of Garden Pinks.
To Messrs. John Peed & Son, West Norwood, for an exhibit of Gloxinias.
To Queenswood School (gr. Mr. G. H. Symonds), Hatfield, for an exhibit of Calceolarias.
To Messrs. John Waterer, Sons & Crisp, Ltd., Twyford, for an exhibit of Paeonies.

Silver Flora Medal

To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of herbaceous plants.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Paeonies and Delphiniums.
To Messrs. Sutton & Sons, Ltd., Reading, for an exhibit of Sweet Peas.

Silver Banksian Medal

To Messrs. Walter Blom & Son, Ltd., Watford, for an exhibit of Dutch Irises.
To Messrs. G. & A. Clark, Ltd., Dover, for an exhibit of herbaceous plants.
To Messrs. M. Prichard & Sons, Ltd., Christchurch, for an exhibit of herbaceous plants.
To Messrs. R. Wallace & Co., Tunbridge Wells, for an exhibit of Irises and Eremurus.
To Mr. G. G. Whitelegg, Knockholt, for an exhibit of Irises.

Flora Medal

To Messrs. J. P. de Goede Sz, Breezand, Holland, for an exhibit of Dutch Irises
To Orpington Nurseries Co., Ltd., Orpington, for an exhibit of Irises.
To Messrs. Sale & Son (Wokingham), Ltd., Wokingham, for an exhibit of Roses.
To Telston Nurseries, Telston, for an exhibit of Regal Pelargoniums.

Banksian Medal

To Messrs. Allwood Bros., Ltd., Haywards Heath, for an exhibit of Carnations and various Dianthus.
To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of Verbena 'Lawrence Johnston.'
To Messrs. Hale & May, Ltd., Cookham, for an exhibit of herbaceous plants and alpines.

To Mr. L. S. Harbutt, Wickhambrook, for an exhibit of herbaceous plants.
To Messrs. G. Longley & Sons, Rainham, for an exhibit of Roses.
To Mr. C. Newberry, Knebworth, for an exhibit of Pinks and Ranunculus.
To Messrs. Ryder & Son (1920) Ltd., St. Albans, for an exhibit of Paeonies and Delphiniums.
To Messrs. Stark & Son, Ltd., Fakenham, for an exhibit of Iceland Poppies.
To Messrs. Wakeley Bros. & Co., Ltd., North Mymms, for an exhibit of herbaceous plants.

Other Exhibits
Roses and Violas, from Mr. C. A. Jardine, Feltham.

FLORAL COMMITTEE B—Lord ABERCONWAY, C.B.E., LL.D., V.M.H., in the Chair, and seventeen other members present.

Awards Recommended

Silver Flora Medal

To Messrs. W. A. Constable, Ltd., Southborough, for an exhibit of Lilies, Irises, Alstroemerias and other bulbous plants.
To Mr. F. Street, Woking, for an exhibit of hardy hybrid Rhododendrons.

Silver Banksian Medal

To Messrs. Burkwood & Skipworth, Ltd., Kingston-on-Thames, for an exhibit of flowering shrubs.
To Messrs. W. E. Th. Ingwersen, Ltd., East Grinstead, for an exhibit of rock garden plants.
To Messrs. Robinson, Eltham, for an exhibit of rock garden plants.

Flora Medal

To Messrs. Feilden & Crouch, Wrotham, for an exhibit of rock garden plants.
To Messrs. L. R. Russell, Ltd., Windlesham, for an exhibit of greenhouse shrubs and plants.

Banksian Medal

To Messrs. Walter Blom & Son, Ltd., Watford, for an exhibit of forms of *Lilium longiflorum*.
To East Lodge Gardens, Enfield, for an exhibit of rock garden plants.
To Kew Topiary Nursery, Richmond, for an exhibit of clipped Box and Bay trees.
To Messrs. Sale & Son, Ltd., Wokingham, for an exhibit of flowering shrubs.
To Verulam House Nursery, St. Albans, for an exhibit of rock garden and border plants.

Award of Merit

To *Allium albopilosum*, as a hardy, flowering herbaceous plant (votes 14 for, 0 against), from Sir Cedric Morris, Benton End, Hadleigh.
To *Rosa* 'Wedding Day' (*R. Sinowilsoni* × *R. Moyesii*, selfed), as a hardy flowering shrub (votes 11 for, 0 against), from Col. F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., Highdown, Goring-by-Sea.
To *Rhododendron* 'Angelo' var. 'Sheffield Park' (*R. discolor* × *R. Griffithianum*) as a hardy, flowering shrub (votes 12 for, 0 against), from Capt. A. Granville Soames, O.B.E., Sheffield Park, Uckfield, Sussex.
To *Rhododendron* 'Rouge' (*R.* T.L. 1249 × *R. Elliottii*), as a hardy flowering shrub (votes 15 for, 0 against), from E. de Rothschild, Esq., Exbury, Southampton.

Preliminary Commendation

To *Lilium* hybrid (*L. candidum* × *L. testaceum*), as a hardy flowering herbaceous plant (votes unanimous, subject to naming), from Messrs. W. A. Constable, Ltd., Southborough.
To *Rhododendron* 'Jan Steen' (*R.* 'Fabia' × *R.* 'Lady Bessborough'), as a hardy flowering shrub (votes unanimous), from E. de Rothschild, Esq., Exbury, Southampton.

Other Exhibits
Allium atropurpureum, *A. multibulbosum*, *Lonicera glaucescens*, exhibited by Sir Cedric Morris, Benton End, Hadleigh.
Alstroemeria × 'Walter Fleming,' exhibited by Messrs. R. Wallace & Co., Tunbridge Wells.

Berberis sp., exhibited by Mr. M. Nicholson, 'Cala,' Kingston, Taunton.
Callistemon pallidus, exhibited by Lord Stavordale, Abbotsbury, near Weymouth.
Chrysanthemum praeteritum, exhibited by Mrs. A. N. Griffith, Paradise House, Newnham, Cambridge.
Hydrangea macrophylla var. 'Maréchal,' exhibited by Mr. M. Haworth-Booth, Farall Nurseries, Haslemere.
Lilium auratum var. 'Pauline Tuffery,' exhibited by Messrs. W. A. Constable, Ltd., Southborough.
Magnolia tripetala, exhibited by Sir George Jessel, Bt., Ladham House, Goudhurst.
Rosa foetida var. *persiana*, exhibited by Miss C. Beck, The Cottage, Great Amwell, Ware.

ORCHID COMMITTEE—Mr. GURNEY WILSON, F.L.S., V.M.H., in the Chair, and ten other members present.

Award of Merit

Odontioda 'Marispum' var. 'Dainty' (*Oda.* 'Marie Antoinette' × *Odm. crispum*) (votes 10 for, 0 against), from Messrs. Charlesworth & Co., Haywards Heath.
Odontoglossum 'Princess Elizabeth' ('Faustina' × *crispum*) (votes 10 for, 0 against), from Messrs. Charlesworth & Co., Haywards Heath.

Cultural Commendation

To Mr. H. Ferdi, 164 Uxbridge Road, Hampton Hill, London, for a well-cultivated plant of *Brassia verrucosa*, bearing nine spikes with a total of 95 flowers.

JOINT DELPHINIUM COMMITTEE—Mr. T. CARLILE in the Chair, and six other members present.

Exhibits

Seedling from A. E. J. B. Kidney, Esq., 11 Osterley Gardens, Thornton Heath, Surrey.
Seedlings A/3/50, A/4/50, A/1/50 and A/2/50 from Mrs. A. Y. S. Skimming, Taplow House, Taplow, Bucks.
Seedling from Hulbert White, Esq., 51 Summerheath Road, Hailsham.

JOINT DIANTHUS COMMITTEE—Mr. F. R. MCQUOWN in the Chair, and thirteen other members present.

Awards Recommended

Award of Merit

To 'Show Pearl' (for exhibition), 'Show Discovery' (for exhibition), shown by Messrs. Allwood Bros., Ltd., Wivelsfield Nurseries, Haywards Heath.
To 'William Brownhill' (for exhibition), shown by Messrs. T. Carlile Ltd., Loddon Nurseries, Twyford, Berks.

Selected for trial at Wisley

Allwoodii 'Faith,' 'Show Pearl,' 'Show Discovery' and Allwoodii 'Hope,' shown by Messrs. Allwood Bros. Ltd., Wivelsfield Nurseries, Haywards Heath.
'Cottage Loveliness,' shown by R. E. Gardiner, Esq., Ilea Close, Far Oakridge, Stroud, Glos.
'William Brownhill,' shown by Messrs. T. Carlile, Ltd., Loddon Nurseries, Twyford, Berks.

Other Exhibits

'Phoenix,' shown by W. R. Gray, Esq., 54 Singleton Road, Dagenham, Essex.
'Pretty Polly,' 'Joey,' 'Mrs. Cranfield-Parker,' 'Mrs. A. E. Wells,' 'Duffy,' 'Jack Cranfield-Parker,' 'Nicky,' 'James S. Wells,' 'Mary Lowe Hall Wells,' 'Red Petrel,' 'Mitzy,' 'Christchurch Salmon,' 'June Morning,' 'Red Eye,' 'Pink Frill,' 'Mrs. Ellen Cane,' and 'Sidney P. Wells,' all shown by Messrs. S. P. Wells, Castle Nurseries, Muscliff Lane, Moordown, Bournemouth.

JOINT IRIS COMMITTEE—Col. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and nine other members present.

Awards Recommended

Award of Merit

To *Iris spuria Lilacina* (votes 8 for, 0 against), shown by Col. F. C. Stern, Highdown, Goring-by-Sea.

Other Exhibits

Iris foetidissima 'Prichard's Superb,' from Messrs. M. Prichard & Sons, Ltd., Christchurch, Hants.

Iris sibirica 'Tycoon' and *I. chrysographes* 'Kermes,' from Messrs. R. Wallace & Co., Tunbridge Wells, Kent.
Bearded Iris 'Pale Primrose' (**A.M.** 1950), from The Orpington Nurseries Co. Ltd., Orpington, Kent.

JOINT ROCK GARDEN PLANT COMMITTEE—Col. F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and eleven other members present.

Exhibit

Scutellaria scordiifolia, from Frank Barker, Esq., Six Hills Nursery, Stevenage, Herts.

JUNE 27, 1950

SCIENTIFIC COMMITTEE—Mr. E. A. Bowles, M.A., F.L.S., F.R.E.S., V.M.H., in the Chair, and three other members present.

Bean Seed Fly attacking Gladiolus—Mr. G. Fox Wilson showed specimens of the bean seed fly (*Delia cilicrura*) and reported that the greater number of 250 gladiolus corms at Staplehurst failed to develop owing to the destruction of the young shoots by the larvæ of this species during early June. As many as 10 larvæ had been found on a corm. The flies emerged from the 17th June onwards. This attack indicated an extension of host-range by *Delia cilicrura*.

Capsid Bug attacking Magnolia.—Mr. G. Fox Wilson also recorded a new host for the common green capsid bug (*Lygus pabulinus*) which had severely damaged the young leaves and growths of *Magnolia grandiflora* at Sanderstead during June.

Strawberry with reddish petals—A half-mature strawberry sent by Mrs. Winifred D. Dixon, of Harrow, had rose-coloured petals still persisting. They had opened rose and all the flowers on the plant were reported to be similarly coloured. Mr. G. Fox Wilson said that since rose colouring of the plants sometimes indicated nematode infection it would be desirable to have this examined at Wisley.

Apetalous Sempervivum octopodes—The Committee examined with interest a form of *Sempervivum octopodes* having carpels but no petals or stamens, exhibited by Mrs. A. N. Griffith, of Newnham, Cambridge.

Lupinus Paynei—Mr. E. A. Bowles put before the Committee an herbaceous lupin of bushy habit which grew up to 6 feet and more in his garden. It had a stout hollow main stem, light green leaves with eight narrowly oblanceolate leaflets to 9 cm. long, glabrous above but minutely pubescent beneath, and loose foot-long inflorescences of mostly whorled pale violet flowers about 1·7 cm. long with a short (about 5 mm. long) pubescent pedicel, glabrous standard and ciliated keel. This plant had been introduced by Lady Byng from California and was grown under the name *L. Paynei*, which seemed not to be correct. It appeared very like *L. rivularis*. Specimens were referred to the Royal Botanic Gardens, Kew.

Delphinium orientale and D. Ajacis—Mr. W. T. Stearn showed specimens of the annual larkspurs, *Delphinium Ajacis* L. sec. J. Gay (*D. Gayanum* Willmott) and *D. orientale* J. Gay (*D. Ajacis* L. sec. Willmott) grown in his garden at Kew, together with horticultural forms from Messrs. Sutton. *D. Ajacis* and *D. orientale*, though closely allied, were distinguishable by a number of associated characters; thus the side branches spread more widely in *D. Ajacis* than in *D. orientale*, which is of rather fastigiate habit, and the spur is much longer in *D. Ajacis* than in *D. orientale*. There are also differences in hair-covering and capsule. A Swedish geneticist Beckman had made over 2,000 cross-pollinations without obtaining a single hybrid. Examination of the garden larkspurs exhibited showed that some were derived from *D. Ajacis* and others from *D. orientale*. It seemed evident that the two species have developed parallel forms, and statements that the annual larkspurs are wholly derived from one or the other species are not correct.

Plants for Identification—A pink-flowered Amaryllid from Lord Aberconway and the National Trust was identified as *Habranthus robustus*. It was suggested that a conifer shown by Iris Lady Lawrence might be *Cryptomeria japonica* var. *dacrydioides*.

FRUIT AND VEGETABLE COMMITTEE—Mr. F. A. Secrett, C.B.E., F.L.S., V.M.H., in the Chair, and ten other members present.

Awards Recommended

First-Class Certificate

To Strawberry 'Auchincruive Climax' (voting unanimous), from the National Fruit Trials, Wisley, Ripley, Surrey, as a first-class mid-season variety which was bred for resistance to red-core by R. D. Reid, Esq., West of Scotland Agricultural College, Auchincruive, Ayr.

Selected for Trial

Strawberry 'Cambridge Seedlings,' Nos. 54, 448, 456, 503, 641, from Kingsley Fruit Farm & Nursery, Ltd., Kingsley, Bordon, Hants.

Other Exhibits

Strawberry 'Cambridge Seedling' No. 365, from Kingsley Fruit Farm & Nursery, Ltd., Kingsley, Bordon, Hants.
Group of Strawberries, from The Pinetree Fruit Farm, Cranborne, Wimborne, Dorset.

FLORAL COMMITTEE A—Mr. G. W. Leak, V.M.H., in the Chair, and twenty other members present.

Awards Recommended

Gold Medal

To Messrs. Blackmore & Langdon, Bath, for an exhibit of Delphiniums.

Silver-gilt Banksian Medal

To Lindabruce Nurseries, Lancing, for an exhibit of Pinks and Border Carnations.
To Messrs. Wheatcroft Bros., Ltd., Ruddington, for an exhibit of Roses.

Silver Flora Medal

To Messrs. Allwood Bros., Ltd., Haywards Heath, for an exhibit of Border Carnations and *Dianthus Allwoodii*.
To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of herbaceous plants.
To Messrs. John Peed & Son, West Norwood, for an exhibit of Gloxinias.
To Messrs. John Waterer, Sons & Crisp, Ltd., Twyford, for an exhibit of Roses.

Silver Banksian Medal

To Mr. L. S. Harbutt, Wickham Brook, for an exhibit of herbaceous plants.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Paeonies and Delphiniums.
To Messrs. M. Prichard & Sons, Ltd., Christchurch, for an exhibit of herbaceous plants.
To Messrs. E. Webb & Sons (Stourbridge) Ltd., Stourbridge, for an exhibit of Sweet Peas.

Flora Medal

To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of Dianthus 'William Brownhill.'
To Messrs. George Longley & Son, Rainham, for an exhibit of Roses.
To Messrs. R. & E. Ratcliffe, Chilton, for an exhibit of Roses.
To Messrs. Sale & Son (Wokingham) Ltd., Wokingham, for an exhibit of Roses.
To Messrs. E. W. Stedman, Ltd., Longthorpe, for an exhibit of Roses.

Banksian Medal

To Hollybush Nurseries, Harpenden, for an exhibit of Penstemons.
To Gavin Jones Nurseries, Ltd., Letchworth, for an exhibit of Alstroemerias.
To Mr. J. W. Read, Hockley, for an exhibit of *Chrysanthemum maximum* 'Esther Read.'
To Messrs. Wakeley Bros. & Co., Ltd., London, for an exhibit of herbaceous plants.

Award of Merit

To Rose 'Claude' (votes 8 for, 4 against), from Messrs. Wheatcroft Bros., Ltd., Ruddington.
To Rose 'Monique' (votes 16 for, 0 against), from Messrs. Wheatcroft Bros., Ltd., Ruddington.
To Rose 'Sultane' (votes 12 for, 2 against), from Messrs. Wheatcroft Bros., Ltd., Ruddington.

Selected for trial at Wisley

Campanula persicifolia 'Windsor Belle,' from Mr. F. A. Bishop, Oaken, Wolverhampton.
Border Carnation 'Cottage Salmon,' from Messrs. Allwood Bros., Ltd., Haywards Heath.
Border Carnation 'Cottage Triumph,' from Messrs. Allwood Bros., Ltd., Haywards Heath.
Border Carnation 'Downs Flame,' from Messrs. Allwood Bros., Ltd.
Delphinium, White Seedling No. 5, from C. J. Howlett, Esq., Earley, Reading.

Other Exhibits

Achillea 'Moonlight,' from the Principal, Essex Institute of Agriculture, Chelmsford.
Carnation 'Ramparts Red,' from Mrs. P. R. Underwood, Colchester.
Delphiniums, from Messrs. Sutton & Sons, Ltd., Reading.
Pinks, Anemones and Lavender, from Mr. C. Newberry, Knebworth.
Roses 'Eden Rose' and 'Grandmere Jenny' (**A.M.** 1949), from Messrs. Wheatcroft Bros., Ltd., Ruddington.
Roses and Violas from Mr. C. A. Jardine, Feltham.

FLORAL COMMITTEE B—Lord ABERCONWAY, C.B.E., LL.D., V.M.H., in the Chair, and twenty other members present.

Awards Recommended

Silver Flora Medal

To Messrs. W. A. Constable, Ltd., Southborough, for an exhibit of Lilies, Irises, Alstroemerias and other bulbous plants.
To Sir Henry Price, Ardingly, for an exhibit of flowering shrubs.

Silver Banksian Medal

To Messrs. R. Wallace & Co., Tunbridge Wells, for an exhibit of Lilies, Eremurus and other hardy flowering plants.

Flora Medal

To Mr. K. W. Harle, Lower Basildon, for an exhibit of succulents.
To Mr. M. Haworth-Booth, Haslemere, for an exhibit of Hydrangeas.
To Messrs. W. E. Th. Ingwersen, Ltd., East Grinstead, for an exhibit of rock garden plants in pots.
To Old Court Nurseries, Colwall, for an exhibit of shrubs, border and rock garden plants.
To Old Welwyn Gardens, Welwyn, for an exhibit of rock garden plants.
To Messrs. Robinson, Eltham, for an exhibit of rock garden plants.

Banksian Medal

To Messrs. Burkwood & Skipwith, Kingston-on-Thames, for an exhibit of flowering shrubs.
To East Lodge Gardens, Enfield, for an exhibit of rock garden plants.
To Mr. F. Street, Woking, for an exhibit of Rhododendrons, Kalmias and other flowering shrubs.

Award of Merit

To *Eucalyptus Gunnii*, as a hardy tree (votes unanimous), from Messrs. C. H. Taudevin, Willaston.
To *Lilium* 'Dunkirk,' as a hardy flowering plant (votes unanimous), from W. Bentley, Esq., Quarry Wood, Newbury.
To *Lupinus ? Paynei*, as a hardy flowering plant (votes 12 for, 0 against, subject to verification of name), from E. A. Bowles, Esq., M.A., F.L.S., V.M.H., Myddleton House, Enfield.
To *Rhododendron* 'Francis Hanger' (*dichroanthum* × 'Isabella'), as a hardy flowering shrub. (Votes 12 for, 0 against), from E. de Rothschild, Esq., Exbury.
To *Rhododendron* 'Inamorata' (*Wardii* × *discolor*) as a hardy flowering shrub (votes unanimous), from E. de Rothschild, Esq., Exbury.

Preliminary Commendation

To *Lilium* hybrid 401410, as a hardy, flowering herbaceous plant (votes unanimous, subject to naming), from Messrs. W. A. Constable, Ltd., Southborough.

Other Exhibits

Blandfordia marginata*, *Manglietia insignis*, *Rosa longicuspis, exhibited by Lord Aberconway, C.B.E., LL.D., V.M.H., Bodnant, N. Wales.
Cornus Kousa var. *chinensis*, exhibited by Col. F. C. Stern, O.B.E., M.C., F.L.S., V.M.H., Highdown, Goring-by-Sea, Sussex.
Cotoneaster lactea, exhibited by M. Ogilvie-Grant, Esq., 71 Kew Green, Surrey.
Eucalyptus Dalrympleana, *E. coccifera*, exhibited by Messrs. C. H. Taudevin, Raby Nurseries, Willaston, Cheshire.
Lilium Hybrid 43/52 N.S., exhibited by W. Bentley, Esq., Quarry Wood, Burghclere, Newbury.
Lilium × *Marhan* 'J. S. Dijt,' *Lilium* × *Marhan* A. 2, exhibited by Mr. H. C. Dijt, Leliekwekerij 'Westergeest,' Den Burg, B 62, Texel, Holland.
Lilium 'Old Gold,' *L.* 'Redbird,' *L.* 'Valiant,' exhibited by Messrs. W. A. Constable, Ltd., The Lily Gardens, Southborough.
Rhododendron 'Retreat,' *R.* 'Reverie,' *R. Thayerianum*, exhibited by E. de Rothschild, Esq., Exbury.
Rhododendron rhabdotum, exhibited by The Earl of Limerick, Chiddinglye, West Hoathly, E. Grinstead.
Rose 'Agnes,' *Veronica* Spender's Seedling, exhibited by Messrs. T. Hilling & Co., The Nurseries, Chobham.
Rose 'Hiawatha' sport, exhibited by A. T. Barnes, Esq., Kingsbrook Gardens, Cardington Road, Bedford

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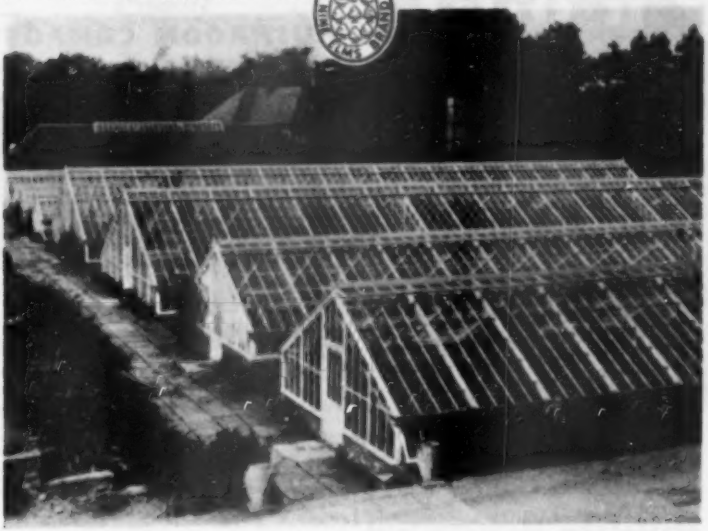

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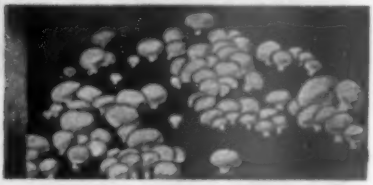

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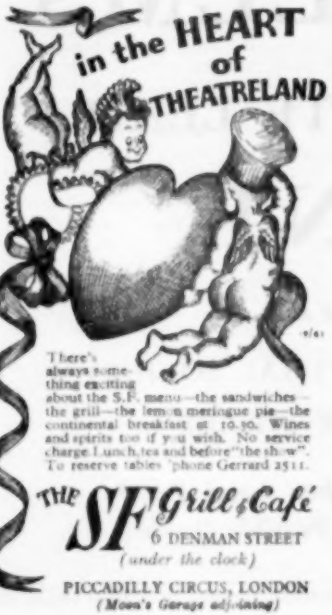

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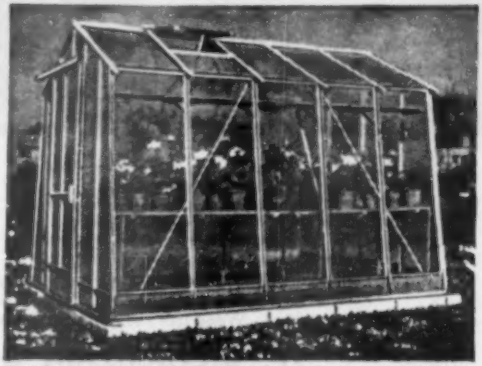

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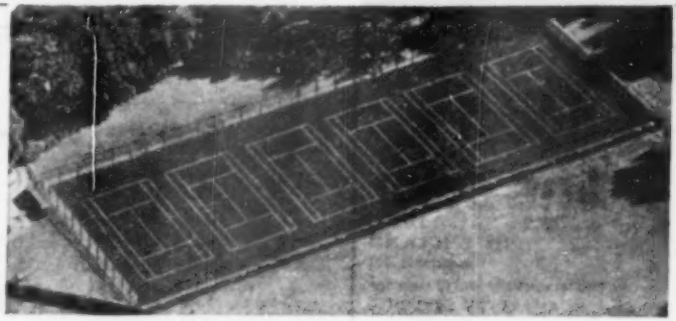

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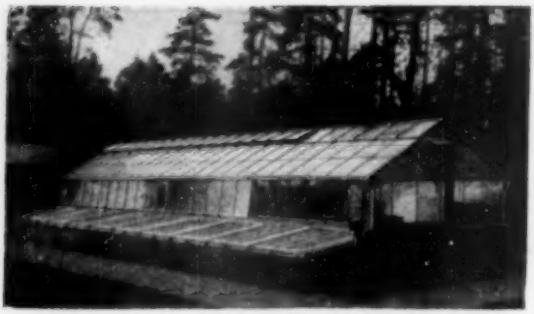

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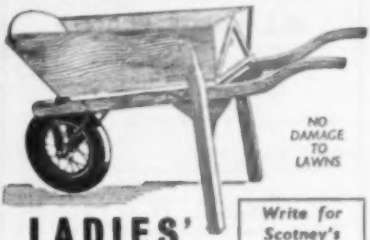

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